



OPERATION IRAQI FREEDOM

Theater Air and Missile Defense

HISTORY

32d Army Air and Missile Defense Command (AAMDC)
111 Slater Road
Fort Bliss, Texas 79916

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...to Those Who Served

Written and published within months of the end of combat operations this history is only a quick snapshot of Theater Air and Missile Defense (TAMD) operations during Operation Iraqi Freedom (OIF). Much historical work (interviews, reviews of records, analysis, etc.) is still required to fully tell the story and also understand the implications of OIF to future TAMD operations.

Thanks are due to all the officers, noncommissioned officers, and soldiers who contributed to collecting, preparing, writing, editing, and publishing this document. In particular, Major James Houlahan, Major Kim Bodoh, Major Douglas J. James, Major Kevin G. Malchow, SSG Kevin Lennox, Bryan Prater, Aaron Armstrong, and Mike Zaborowski were instrumental in completing this history.

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A NOTE FROM THE COMMANDING GENERAL:

By: BG Howard B. Bromberg, Commanding General

Although we did not fully realize it at the time, our planning for Operation Iraqi Freedom (OIF) and our role in the Global War on Terrorism actually started within minutes after the attack on the World Trade Center. On September 11, 2001, the command began assuming roles in three major operations which culminated over nineteen months later with the Coalition victory in removing the Regime of Saddam Hussein and freeing the Iraqi people and the region from his threats.

In late September 2001, the command deployed to the CENTCOM area of responsibility (AOR) in support of Operation Enduring Freedom (OEF). During this deployment we conducted mission analysis against all air and missile threats ranging from ballistic missiles to the potential for terrorist attacks using manned aircraft. Our detailed work led by COL Bob Carney, the G3, with able assistance provided by Col Steve Fleet, USAF, would help greatly to set our theater stance in the future prior to our execution of OIF.

During OEF we led a joint air defense team to all the Gulf States and began the detailed work of Host Nation Agreements; linking Host Nation systems to U.S. C2, setting up Mobile Training Teams for return visits, and laying the foundation for what would be a first ever Theater Area Air Defense Plan for Southwest Asia (SWA). During this period we also reviewed all aspects of air defense. Our command team learned many valuable lessons and established a great working relationship with LtGen Mosely, commander of 9th Air Force (AF) and the Combined Forces Air Component Commander (CFACC), which would be key in the months ahead as we planned and fought OIF as a joint team.

One of the most notable accomplishments during OEF and the fight in Afghanistan was our ability to transmit the Link - 16/TADIL - J air picture throughout



(U) BRIGADIER GENERAL HOWARD B. BROMBERG, COMMANDING GENERAL, 32D ARMY AIR AND MISSILE DEFENSE COMMAND (AAMDC).

the AOR. We also saw that our 140A's role was critical to the success of operations in a joint battlespace. The support provided by the FORSCOM TADIL School with their expertise was invaluable as it allowed us to transmit the Link - 16 air picture from the Combined Air Operations Center (CAOC) at Prince Sultan Air Base (PSAB) in Saudi Arabia to the sole air defense platoon leader's Hand Held Terminal Unit (HHTU) in Afghanistan. This enabled him to conduct air traffic control from inside the Afghanistan border. This data link was remarkable as it was the only air situational awareness the platoon leader, and therefore the Task Force, from the 10th Mountain Division had on the ground.

As we returned home the following spring, we turned our attention to exercises in Korea and continued planning for what would eventually be known as Operation Iraqi Freedom. As we looked at the upcoming SWA Patriot rotation we made one of our first major decisions — to build a PAC-2/PAC-3 Task Force — placing our PAC-3 capable units from 2-1 ADA under the command of 3-43 ADA for the rotation. Although we did not have a fielding decision, we wanted to ensure we could bring this capability to the region as fast as possible if the President decided to remove the Regime of Saddam Hussein by force. Simultaneously, as we supported JFCOM in the conduct of Millennium Challenge (MC) 2002 and the United States Forces Korea (USFK) during Ulchi Focus Lens (UFL) 2002, our headquarters completed planning for the air defense of the National Capital Region and other key installations and assets throughout the United States and outside the continental United States.

While completing UFL '02 in Korea, we received a planning order to defend the National Capital Region against a manned aircraft threat. The headquarters received OPGON 4-5 ADA "Renegades" and executed "Operation Clear Skies" in September 2002. This was the first time an Air Defense unit defended key assets on United States soil since the Cuban Missile Crisis. The sight of Stinger gunners and Avengers with Washington D.C. as a backdrop was truly remarkable and left us somber, but also determined.

Our planners continued to work the details of our plans in support of CENTCOM while we completed the mission of defending the skies over our Nation's Capital and began our deployment in support of CENTCOM. A small group of planners, led by myself, deployed to Kuwait to begin the operational level planning for OIF. What I found most comforting during all these months leading up to combat operations was the great flexibility and adaptability of all of our soldiers. As you will see in the remaining portion of this History, it was the tremendous efforts of our soldiers that took our concepts and plans and turned them into action and more importantly accomplished the mission. We may debate for years to come system effectiveness and why something

happened, but we won't need to debate the effectiveness and successes of our soldiers and leaders throughout this fight.

The one key objective of our plan was that no enemy air or missiles would impact the coalition and joint forces ability to wage war and win this fight. At a more personal level, we all wanted no loss of life due to an air attack.

As you read through this History note the varied missions, cross-attached units, the seamless line between CORPS and Echelon Above Corps ADA units, and in some cases the Divisional ADA integration. New missions included: moving Patriot intra-theater by LSV, remissioning of units within the AOR to support maneuver requirements, using EAC units not just to cover the CENTCOM Commander's assets, but to flex to meet missions, placing an ADA brigade in direct support of the Marine Expeditionary Force (MEF), and supporting elements of the 1st United Kingdom (UK) Division. Also, the integration of the coalition forces was an amazing feat, beginning with the Kuwaiti and Saudi Patriot integration and later expanded to include SHORAD systems as well.

The senior commanders gave us unprecedented latitude and support. LTG McKiernan, Commander Coalition Forces Land Component Command and LtGen Mosely, Commander of Coalition Forces Air Component Command, provided clear intent and support that enabled the command to meet the CENTCOM Commander's priorities. Professional relationships between headquarters enabled the 32d AAMDC to set priorities and accomplish the mission in the best way possible across the theater in support of three headquarters.

The greatest reason for our success was people. The soldiers and their leadership made OIF a success. Over 6,500 soldiers deployed to eight countries under a wide range of conditions. Every soldier I spoke with had a clear focus and a positive attitude. No matter what we asked of our soldiers and their leadership, it was executed with the utmost pride and discipline. All soldiers put their heart and soul into ensuring their unit would accomplish its mission. The Mechanics, Logisticians, Medics, NBC Specialists, Personnel Specialists, Infantry and all the others, who supported PATRIOT with superb efforts, contributed greatly to the success of Patriot in destroying the incoming missiles.

The battalion commanders had different challenges and missions and showed great flexibility and aggressiveness throughout OIF. It was this type of leadership, coupled with great soldiers that enabled the units to fight through harsh and demanding conditions. Operations embodied teamwork from the most senior officers to the most junior private. Soldiers are and will always be the reason for our success.

From the largest single strategic air deployment of PATRIOT in history with 1-7 ADA's deployment into Jordan to 3-43's dynamic reach across five different countries with more than 1,250 soldiers under their C2, OIF proved to be a massive undertaking for the branch. 5-52 and 2-43 ADA performed miraculously for the Corps and the MEF, both working tirelessly to meet their respective commanders' intent. 2-1 ADA in Kuwait exercised tactical control over five additional Kuwaiti PATRIOT batteries through a MICC/SICC configuration, accounting for a full eight of nine successful PATRIOT intercepts against Iraqi ballistic missiles. 1-1 ADA successfully endured the longest lasting strategic deployment in air defense history when they loaded their equipment on 4th Infantry Division ships only to see them go into MODLOC in the Mediterranean Sea for months before the war began. The work of the separate batteries, from 1-1 and 3-2 ADA attached to TF 3-43 defending Bahrain and Qatar, enabled us to meet a major strategic objective. Without their invaluable assistance, the Command could not have redeployed as easily as it did in the end. Lastly, 6-52 ADA from Germany deployed just before combat operations began and did a fantastic job in support of the EAC and Corps fight.

The performance of our divisional air defense soldiers of 1-3 ADA and 2-44 ADA was nothing short of superb as well. From performing air defense missions in the forward and rear areas to fighting as infantry, the flexibility and valor of these great soldiers was remarkable. Beginning with 1-3 ADA's deployment the prior year in support of the Intrinsic Action rotation thru its drive into Baghdad with 3rd Infantry Division, each and every soldier exceeded every standard, every day.

The team work amongst our Air Defenders, no matter what their weapon system, was no less than expected. Junior leaders conducting joint rock drills and planning was one of the many keys to our success. These HIMAD and SHORAD soldiers working together broke the line within our branch forever.

Of course, none of this would have been possible if not for the hard work behind the scenes performed by MG Burns at FORSCOM and MG Dodgen and his team at AMCOM. The Command is indebted to them both for their efforts in supporting our proud air defenders with everything required to go to war.

I am honored for having the privilege of commanding such exceptional soldiers. I am proud to have served with them and humbled to walk in their presence. While our success was great it did not come without a price. We will never forget those soldiers and families that made the ultimate sacrifice for their country.

SWIFT & SURE!

CHIEF OF STAFF OVERVIEW:

By: COL. CHARLES A. ANDERSON, CHIEF OF STAFF

The multi-compo staff of the 32d AAMDC arrived in Kuwait with 16 soldiers on 15 November 2002 to execute exercises Lucky Warrior and Internal Look. We soon discovered we probably came a little too light and muscled our way through the first exercise. Soon after Lucky Warrior, the workstations to include ADSI,



AMDWS, C2PC, GALE, and IWS arrived, and we were in business. Our focus was to transform the back of warehouse #8, normally used by the deployed Patriot Task Force, into our command post. Additionally, we embedded key staff officers in the CFLCC C3-ADA staff section under LTC Dave Gilbert. Here, we would execute our current operations/passive defense and align with the CFLCC battle rhythm.

The 32d Command Post contained our force operations; admin/log, and plans sections and a small intelligence cell. Additionally, we managed the SSTOs and SAMSTATs through a battle captain and NCO. Real time functions were executed in the CFLCC Command Post, and near-real time functions such as logistics and plans took shape in the force operations cell. Approximately thirty percent of the staff, to include the G3 and a preponderance of the G2 and attack operations personnel, were located in the Combined Air Operations Center (CAOC), Prince Sultan Air Base (PSAB). Colonel Carney's detachment was embedded in the CFACC battle rhythm and devoted their energy to attack operations, time sensitive and deliberate targeting, and the management of the Patriot Alert States. We called this cell, engagement operations. All three cells, current operations, force operations and engagement operations were digitally connected through AMDWS, ADSI, AC10, C2PC and CHAT. The sharing of information, decision-making, and situational awareness originated from the morning Battle Update Assessment (BUA) conducted at the force operations cell. Following this briefing, the Commanding General would attend the morning Operations/Intelligence update with the

CFLCC Commander and key staff. This one-hour session was followed by the CFLCC BUA.

Upon our arrival in theater, it was apparent the CFLCC was aligning the traditional staff in accordance with the operational functions of operational fires, movement, sustainment, and protection. At the onset most questions to the command were geared to alert warning for TBMs and the recon and decon in the event of a chemical attack. The primary concern was that an Iraqi pre-emptive attack on the port or airport would delay the RSOI process and perhaps cause a catastrophic loss or an environmental disaster from a TBM hitting the chlorine or industrial plants by the port. The linkage between NBC and ADA personnel was readily apparent in order to protect critical assets, and it was soon discovered that each required a security force, which added PMO personnel to the planning team. All three elements became an operational protection cell under the C2 of BG Bromberg, the operational protection “Czar.”

Emanating from this appointment was the development of the high value asset list in the CFLCC rear area and an assessment of their vulnerability from an NBC, TBM, or terrorist/level one threat. The operational protection BUA slides evolved to meet the CFLCC Commander’s intent. The Common Operating Picture (COP) for operational protection presented by the 32d AAMDC, set the standard for the CFLCC BUA as we showed the COMCFLCC the risk to all the HVAs in the CFLCC rear area. Soon after the team of MPs, ADA and NBC officers/NCOs assessed the first sites to be RED (High Risk), the emphasis on force protection elevated and resourcing for Giant Voice, bunkers, and NBC detection and security inspection devices became a priority. Leaders soon were held accountable for SCUD drills and the security of their camps and soft targets such as the port and airport (KCIA) were routinely inspected.

The operational protection function and organization was enhanced with the arrival of Col Dave Treuting (MP) and Colonel Glenn Eddins (Chemical). Soon Dave Treuting increased the size and capability of the operational protection staff and the vulnerability assessment improved in detail and quality. As operational protection transformed, the 32d AAMDC continued to be the lead and continually updated LTG McKiernan as part of the CFLCC BUA.

From the onset of the deployment we quickly became organized, and our headquarters grew with the expansion into operational protection and the arrival of World-Wide Individual Augmentation System (WIAS) soldiers and IRR. We soon discovered we needed assistance in the technical aspects of tabular settings, PTLs, and the creation of the defended asset in the Patriot ECS. To provide sound technical advice, Colonel Rob Jassey (TSM-Lower Tier) and his staff from Fort Bliss made visits to the

theater. One of the WIAS officers who came to assist in current operations was LTC (P) Jim McDonough. His participation in all aspects of air and missile defense improved reporting and alert state management procedures. Additionally, he took over the duty of briefing the operational protection slides at the BUA. Later, Colonel Treuting would brief the PMO and security portions of the brief and LTC (P) Jim McDonough briefed the air and missile defense portions. The COMCFLCC routinely commented on the operational protection briefing slides in regards to reducing the risk associated with the HVAs in theater. There was never a dull moment at the BUA.

The Area Air Defense Plan (AADP) written prior to operations was masterfully developed in Qatar by representatives from all the services. The attendees to this working conference included the CG 32d AAMDC and key members of his staff, all the ADA brigade and battalion commanders, the CRC squadron commander, and representatives from the AEGIS, Cobra Judy, CAOC, TAOC, and AWACS. Maximizing the experience and expertise of Colonel Steve Fleet (USAF), Colonel Steve Peters and Colonel Robert Carney, they developed a the comprehensive AADP for the SWA Theater of operations and detailed the C2 we intended to use in the upcoming fight.

The WIAS request to fill LNO and air defense artillery fire control officer (ADAFCO) positions was not filled until a week prior to the war. After completing training at Fort Bliss, IRR officers deployed and filled the LNO positions while the New Mexico Army National Guard (NMARNG) deployed and assumed the ADAFCO positions in the TAOC and CRC. Unfortunately, the arrival of these personnel filling key positions was not timely; therefore, a smooth transition or train-up was cut short. The officers arrived a few days before G-day and were rapidly linked up with their units. Some were deep in Iraq only a few days after their arrival at Camp Doha.

Staff challenges, with reporting processes/standards after the establishment of a battle rhythm, came with the discovery of maintenance issues with the PAC-3 radar. Initially, with the time lag for the delivery of critical class IX parts and the backlog of parts sitting at the APOD, the theater distribution center and DOHA warehouse made parts management a nightmare. Thanks to our Logistics Assistance Representatives (LARs), G4, and Army Materiel Command (AMC), we powered our way through the process and ensured units had ample parts for D-Day and beyond. Non-mission capable (NMC) radars and later undefended assets were COMCFLCC CCIRs. Initially, on any given day we experienced six to eight NMC radars because of the harsh environment. The NMC duration of one config-3 radar had us all concerned. The radars seemed to need more parts and diagnosis.

After about two weeks of config-3 radar maintenance issues and with one radar down for 36 days, the AMCOM commander, MG Dodgen, approached us with assistance that would shape our success in the upcoming weeks. Raytheon engineers came to the theater and working around the clock they repaired all the radars, except one radar, to a fully mission capable status. Parts were arriving daily and unit logisticians were ensuring that before they crossed the border their ASLs were stocked with the common parts (critical 50). Forty-eight hours prior to the first TBM attack and for the first time since arriving in theater, the radars were fully mission capable (FMC) and began to function with minimum difficulty. Patriot was ready for the war.

As for Phase III, the 32d AAMDC staff continued to push all classes of supply and C2 the TAMDC fight through the use of ADAFCOs and LNOs throughout the theater. The G2 section became the voice for enemy TBMs, and the whereabouts of Patriot parts became everyone's business. Confidence in the patriot weapon system was high after Patriot successfully intercepted three enemy missile attacks against Camp Doha. The 32d AAMDC patch was recognized throughout the theater, and our soldiers received appreciation and admiration from all the services and branches of the Army. This feedback, by far, was the highlight of the war for the 32d AAMDC staff. All the hard work from early November to the start of the war—the planning, coordination, exercises, establishment of the TPFDD and the largest ever Patriot deployment — came to fruition when Patriot intercepted the first incoming missile. The sound of the Giant Voice (early warning system) on Camp Doha alerted over radio (AC-10)AEGIS ship, 200 miles off shore, followed by the sound of Patriot missiles launched over the 32d AAMDC and CFLCC Command Post, will be forever etched in the memories of the command and the 10,000 personnel working and living on Camp Doha. The critics concerns over Patriot lethality should be forever silenced.

The low point for the 32d AAMDC staff came during a 36-hour period that would test our professionalism and resolve. We first had a blue on blue engagement with a UK GR-4, Tornado. This tragic event was followed by the ambush of the 507th maintenance company in An Nasiriyah.

In response to the fratricide incident, BG Lennox, Col Jassey, CW4 Sprinkel and CW4 Murphy came to lead and assist in both the collateral and Army Safety Center investigation. Interesting enough, the Patriot ECS crew that engaged the GR-4 would destroy a TBM heading toward the 101st Airborne Division less than 24-hours after the incident. The fog of war was upon us and the 32d AAMDC leadership quickly made the appropriate changes to the ROE and kept fighting and protecting the force.

The unknown status of the soldiers of the 507th Maintenance Company glued the staff to the TV and the CFLCC Home Page (significant activities). As expected the unknown fate of the fifteen missing soldiers had a draining effect on the staff. However, the rescue of PVT Lynch and finally the other POWs brought us all together. The memorial service at Fort Bliss for those who died in the 507th ambush was viewed by us on VTC and followed later by the arrival of the POWs brought forth deep emotions from the staff. The pride of the 32d AAMDC in their subordinate units and the men and women who made up these formations was overwhelming. The Patriot force fought with the utmost courage and tenacity on a battlefield that was noncontiguous and characterized by a rear area threat. Difficult terrain and a demanding environment challenged personnel and equipment.

In all, the 32d AAMDC staff of military and civilian contractors deployed to OIF predominately from Fort Bliss and cities in Florida. Other arrivals were WIAS and IRR from throughout the United States. They all converged on Camp Doha Kuwait armed with varying degrees of skill, knowledge, and ability to form an air and missile defense team.

The 32d AAMDC set the conditions for success in passive defense, attack operations, and active defense. The use of the Future Operations Capability (FOC) Command Post from SMDC gave us the C4I architecture and materiel for situational awareness and information dominance. No doubt, the staff provided the commander the information for critical decisions. The “Playbook” worked and combat power was massed to support the commander on the ground. We fought the enemy and not the plan and all improved as we progressed. Defending against short range TBMs in a dense electromagnetic environment which caused interference amongst systems was challenging for air and missile defense experts to include the “Boys from Boston” (Raytheon) and the TSM-Lower Tier experts.

In the twelve years since Operation Desert Storm, we have remembered the loss of our soldiers from the last launch on the last day of the war against Dhahran, Saudi Arabia. We vowed to not let this happen again and no lives or equipment were lost in OIF from a TBM. However, the cost for that success came at a price with the loss of two friendly aircraft to Patriot fires.

The Iraqi use of the CSS-3 (Seersucker) in a land-attack role was not effective, but from an air and missile defense perspective, continued attacks may have forced us to change our tactics. What was revealed, in these cruise missile attacks, was a glimpse of a future threat that the 32d AAMDC will eventually have to plan a defense against on a non-contiguous battlefield.

The Patriot force arrived in Southwest Asia over twelve years ago and we never departed as we were called upon to provide a forward presence and show our Nation's resolve in the region. We now stand as a force that fought hard, suffered casualties, and provided leak-proof coverage over critical assets. We accomplished the mission.

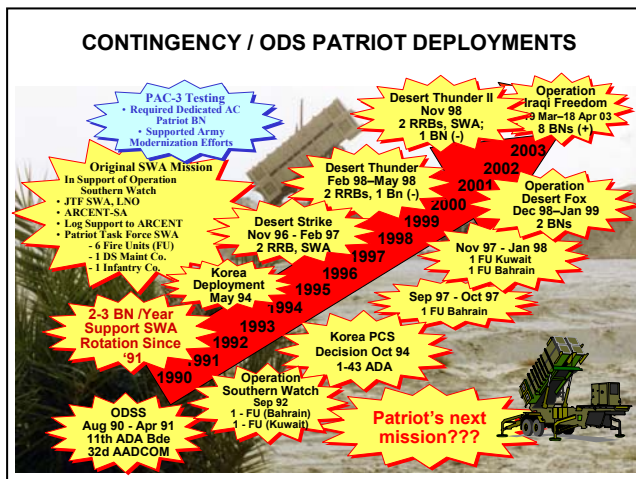
CHAPTER I - DESERT STORM TO OIF

“What I think is notable is the fact that our forces have been coming here for 12 years, ever since DESERT STORM, and we have seen some major buildups...DESERT FOX is one, DESERT THUNDER another, and people really were concerned this may be just another DESERT FOX or just another DESERT THUNDER, and we’re just rattling the sabers. Once they saw that this was for real, and once they saw that the United States was committed in taking down Saddam, and eliminating this threat to our security and the security of the region, morale was sky high, I think that really did boost everybody’s morale, and the American Soldier executed the mission as trained.” – COL Carney, G3 Operations, 32d AAMDC

“My mother taught me when I was young that if a bully is on the playground picking on people who can’t defend themselves, you do something about it. Saddam Hussein is the bully, and we are doing something about it.” – PV2 Randle, medic for 31st ADA Bde, during an 18 March 2003 interview with the *Tucson Citizen*, his hometown newspaper

LONG-TERM PREPARATION, 1991-2001

Operation DESERT STORM ended on February 28, 1991. The official cease-fire was greeted with the redeployment of hundreds of thousands of troops, parades and celebrations. However, for many air defense troops the end of hostilities simply led to a new phase in the conflict with the regime of Saddam Hussein. DESERT STORM gave way to a twelve-year vigil by air defenders who remained ready to defend the United States’ allies in Southwest Asia (SWA).



Lessons Learned from DESERT STORM

At home, the performance of the Patriot air defense system came under attack. Critics had doubts about the performance of the system during DESERT STORM. In fact, many argued that Patriot never successfully engaged a single SCUD during the conflict. They claimed that, at best, the Patriot missiles launched during DESERT STORM simply knocked a few SCUD warheads off course, merely changing the ultimate impact point and area of destruction. The critics also argued, the coalition failed to destroy any of Iraq’s missile launchers and transporters despite an intense hunt during the war.

Throughout the twelve-year period from DESERT STORM to Operation Iraqi Freedom (OIF), the Army

sought to address many of these issues. The Army not only continued to test and improve the capabilities of the Patriot air defense system by significantly improving the capabilities of the system's radar, fire control system and missiles themselves, but it also examined the overall JTAMD command and control structure in order to determine what, if any, changes needed to be made.

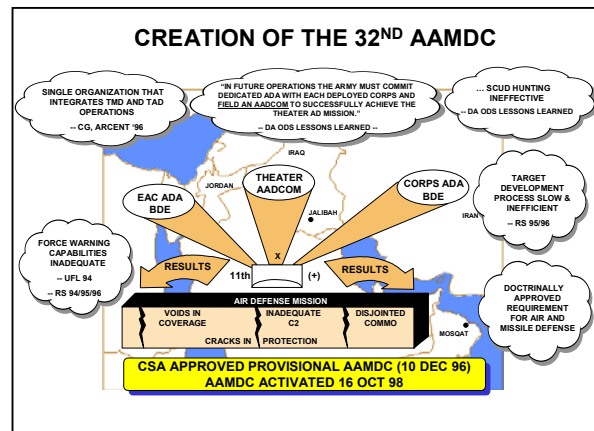
In the years between DESERT STORM and Operation IRAQI FREEDOM, there were two overarching developments within the JTAMD community. First, the Army created a single command to oversee the integration of all theater ballistic missile and air defense systems. The 32d AAMDC was established and charged with coordinating overall Joint Theater Air and Missile Defense (JTAMD) for the theater ground and air commanders. Specifically, the command assisted both the CFACC and CFLCC in executing attack operations against tactical ballistic missile targets, and provided both active and passive defense against theater ballistic missile attacks. Second, the Army made the commitment to modernizing the Patriot force and developing the PAC-3 weapon system. The Patriot units deployed to the Central Command (CENTCOM) area of operations (AO) in support of OIF were equipped with GEM, GEM+ and PAC-3 missiles, which were all improvements based on lessons learned from DESERT STORM. In addition, the Patriot units also possessed upgraded Patriot ground equipment, consisting primarily of enhanced radar tracking and communications capabilities. The PAC-3 was a major step forward in theater ballistic missile defense. Not only could Patriot units better track and identify incoming TBMs, but they could now achieve greater probabilities of kill with the improved missiles. The PAC-3 missile represented the state of the art, having just completed testing and now beginning full production. Instead of destroying the target with an explosive charge, the PAC-3 was designed to achieve a kinetic warhead-to-warhead kill.



The Birth of the 32d AAMDC

One of the significant lessons learned from Operation DESERT STORM was the profound need for a rapidly deployable, theater-level, Army organization capable of commanding echelon-above-corps (EAC) air defense brigades, and prepared to execute the multi-faceted requirements of Theater Air and Missile Defense (TAMD) in a contingency environment. The creation of such an organization would not only fill a void in TAMD, but it would also release the EAC air defense brigade from a function they were neither designed, manned, or equipped to perform. The brigades would then be free to perform their primary mission – warfighting. In November 1994, the concept of a TAMD organization was presented to the Chief of Staff of the Army (CSA) for his approval.

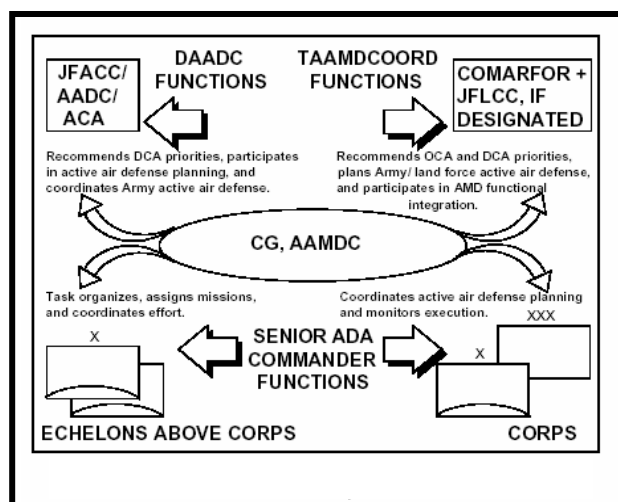
The CSA endorsed the concept. However, the realities



of a downsizing army and the complexities of this vital mission area warranted refinement and some additional “forward thinking,” so the CSA directed further staffing and coordination. As a result, a two-step process was developed to further study the organizational concept. For the first step, the Army equipped and manned a prototype Army Theater Missile Defense Element (ATMDE) under the auspices of the Army Space and Strategic Defense Command (SSDC), and exercised this element during numerous joint exercises. Step two incorporated the lessons learned from previous exercises and developed an objective organization to carry forward through the Force Design Update (FDU) in order to compete for Army resourcing. In December 1996, the CSA approved the multi-component Army Air and Missile Defense Command concept comprised of 69 active component and 112 reserve component personnel – an AC/RC mixed headquarters, designed in consonance with an evolving “Total Force” concept. He directed the fielding of a provisional organization, the continuation of the FDU process, and follow-on refinement of Tactics, Techniques, and Procedures (TTPs). The 32d AAMDC fulfilled this charter over the ensuing months, validated its critical TAMD mission, and conducted extensive training during numerous joint and combined exercises including ROVING SANDS 97, ULCHI FOCUS LENS 97, COHERENT DEFENSE 97, and the U.S./Russian TMD Exercise in January 1998. As a result, the AAMDC organization and its MTOE were finally approved as the 32d AAMDC, with an EDATE of 16 October 1998.

The command was designed to be the Army Forces (ARFOR) and the Joint Forces Land Component Commander’s (JFLCC) organization for TAMD planning, integration, coordination and execution functions. In addition, the 32d AAMDC was designed to command EAC air defense brigades and other assigned forces. The command was also tasked with performing critical TAMD missions with combined, joint, and coalition forces. The 32d AAMDC coordinates and integrates the four operational elements of theater missile defense (passive defense, active defense, attack operations, and battle management/command, control, communications, computers, and intelligence [BMC4I]) in order to protect contingency, forward deployed, and reinforcing forces as well as designated theater strategic assets. To accomplish this mission, the 32d AAMDC deploys liaison officers to all major theater command and control elements including the Air Component Commander (ACC), Land Component Commander (LCC), Joint Special Operations Task Force (JSOTF), and Maritime Component Commander (MCC), in order to provide coordination in the execution of integrated TAMD operations.

When deployed to a theater of operations, the 32d AAMDC commander fulfills three primary roles

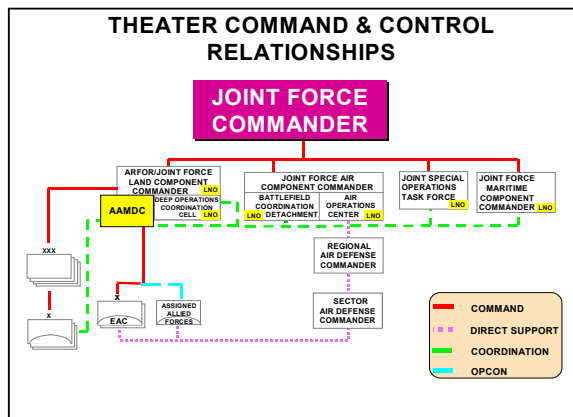


simultaneously: (1) Theater Army Air and Missile Defense Coordinator (TAAMDCOORD) for the ARFOR; (2) commander of all in-theater EAC Army air defense units; and (3) Deputy Area Air Defense Commander (DAADC) to the Combined Forces Air Component Commander (CFACC).

The 32d AAMDC is not just an air defense headquarters. It is an Air and Missile Defense (AMD) headquarters staffed by personnel from multiple branches, and relies heavily on their functional areas of expertise to execute the four operational elements of TAMD. In addition to air defense specialties, the 32d AAMDC staff consists

of field artillery, aviation, special operations, intelligence, signal, and chemical personnel melded into an effective TAMD team. The 32d AAMDC provides the staff expertise and latest technology to plan, coordinate, deconflict, and monitor the execution of the ARFOR/JFLCC TAMD plans during force protection operations.

The 32d AAMDC is a prime example of the Army's Total Force concept. The command is based at Fort Bliss, Texas and composed of both active duty soldiers and soldiers from the Florida Army National Guard. Subordinate elements can be forward deployed as the political and/or strategic environment dictates. The 32d AAMDC falls within the authority and under the operational control of U.S. Forces Command (FORSCOM) in peacetime, but works directly for the ARFOR or JFLCC in wartime. Current Army authorization documents provide an end-state of two AAMDCs: the 32d AAMDC (AC/RC mixture), and a second AAMDC (RC only). This enables the Army to potentially provide JTAMD support to two major theaters of war (MTW) at the same time.

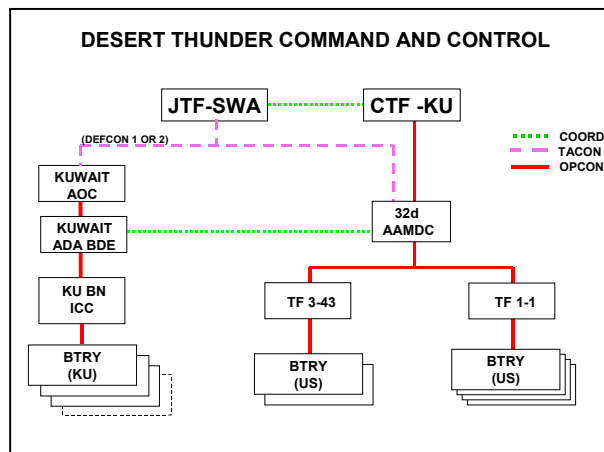


The 32d AAMDC in Operation DESERT THUNDER

Prior to Operation IRAQI FREEDOM, the 32d AAMDC deployed to Southwest Asia on numerous occasions for Operation DESERT THUNDER, Operation DESERT THUNDER II, and Operation DESERT FOX. During these deployments, the 32d AAMDC played a pivotal role in developing procedures for combined United States and Kuwaiti air and missile defense, interoperability and training. The 32d AAMDC also worked to expand the theater ballistic missile (TBM) alert and warning architecture within Kuwait and validated its ability to conduct reception, staging, onward movement and integration (RSOI) operations. These prior deployments provided key lessons for assuming command and control of Patriot units in a combined/joint environment. All of these capabilities would be thoroughly tested during the build up to and execution of Operation IRAQI FREEDOM.

In late January 1998, the 32d AAMDC received initial alert notification for possible deployment to support contingency operations in Kuwait. A four-person planning cell was deployed on 4 February 1998, which conducted initial theater air and missile defense planning, and coordinated the deployment of the 32d AAMDC TOC. On 11 February 1998, the Commanding General and a 15-person robust planning cell deployed to Kuwait, followed by the 32d AAMDC TOC and remainder of the active component organization on 19 February, fulfilling the Combatant Commander's deployment guidance: "just enough, just in time". The 32d AAMDC assumed command of the in-country Patriot Task Force (TF) 1-1 ADA, conducted RSOI operations, assumed command of Patriot TF 3-43 ADA, embarked upon writing a Theater Air and Missile Defense plan for Operation DESERT THUNDER, and then executed the TAMD mission. This marked the first deployment of the 32d AAMDC to support an actual contingency operation. This was a significant achievement considering the organization was operating at about 50-percent strength, and had not reached its EDATE. The outstanding support provided by ARSPACE, 11th ADA brigade, 31st ADA brigade, 35th ADA brigade, 108th ADA brigade, and Fort Bliss was absolutely instrumental to the total success of the deployment.

Upon arrival in Kuwait, the 32d AAMDC established necessary liaison and coordination with the Air Component Commander (ACC). Almost immediately, an eight-person liaison team was quickly deployed from Kuwait to the Air Operations Center (AOC) located in Riyadh, Saudi Arabia. With required liaison in place, the 32d AAMDC was represented at both the Land and Air Component commanders' headquarters, and poised to support joint air and missile defense operations. The 32d AAMDC assumed command of two Patriot Task Forces: TF 1-1 ADA in Saudi Arabia, which was already on the ground as part of the continuing Patriot SWA rotations, and TF 3-43 ADA, which deployed together with the 32d AAMDC in support of Operation DESERT THUNDER. The 32d AAMDC was assigned Operational Control (OPCON) to the commander of the Coalition Task Force-Kuwait (CTF-K) and under the Tactical Control (TACON) of JTF-SWA for fire control and mission execution. The diagram below illustrates the command and control linkages for DESERT THUNDER. Eventually, the Executive Order for selective reserve call-up was signed and a 10-person contingent from the Florida Army National Guard's 164th ADA brigade deployed on 28 March 1998, filling some of the reserve component slots within the 32d AAMDC's AC/RC structure. In addition, eight logistics and simulation civilian contractors deployed and participated as part of the team.



Deployment of the 32d AAMDC and elements of the 11th ADA and 31st ADA brigades for Operation DESERT THUNDER afforded the Army an opportunity to initiate a number of integration initiatives with both Coalition air defense forces and U.S. service components. First, coordination and integration of U.S. and Kuwaiti Patriot forces helped to establish a coherent and viable air and missile defense of USCINCENT critical assets, host nation population, and friendly forces. Intense planning and coordination between Kuwaiti, U.S. Patriot, and the USAF Control and Reporting Element (CRE) was required to achieve a fully integrated air and missile

defense posture. Second, the establishment of Tactical Data Information Link (TADIL) between all coalition Patriot forces and the CRE in Kuwait was absolutely critical. Communication equipment and interoperability differences among coalition Patriot forces were overcome, as well as achieving conditional approval for passing data through Kuwaiti equipment. Work-around solutions were developed by using U.S. and Kuwaiti communications equipment as well as a new communications architecture to lash up the TADIL link. The establishment of the TADIL feed was significant in that it provided a functioning command and control structure, integrated all air and missile defense forces, greatly reduced the risk of fratricide, fostered equipment interoperability and training opportunities and, most importantly, placed all coalition Patriot forces TACON to a single controlling center.

Third, a specified and critical function of the 32d AAMDC was providing timely TBM early warning. Timely and reliable warning to deployed forces necessitated the rapid development of a functional alert system. The 32d AAMDC leveraged a previously tested concept and fielded a TBM early warning system called the Pager Alert Warning System (PAWS). Commercial digital pagers were used, along with a 486 Pentium PC and commercial phone lines to provide TBM early warning throughout the joint operational area (JOA). The development and implementation of PAWS was a significant force

multiplier. During regularly scheduled weekly TBM early warning exercises, PAWS proved itself a reliable and timely means of early warning, shaving minutes off the warning time of current voice systems.

Fourth, within the realm of training readiness, the 32d AAMDC, Technical Assistance Field Team (TAFT) and the Kuwaiti air defense forces planned and executed a number of coalition training events, which significantly enhanced combat readiness of all air and missile defense forces within the Kuwait JOA. These training events also strengthened the trust and confidence between coalition Patriot units, which would pay tremendous dividends later on during OIF. The initial training event, a fully integrated air and missile defense exercise called Tactical Tuesday, was conducted weekly. This exercise, in concert with regularly scheduled TBM early warning exercises, trained Patriot crews in air battle operations, validated combat readiness, and exercised command and control of air and missile defense units. As a result of this program's success, a second version focusing on air battle management was conducted each Monday giving coalition Patriot crews additional training opportunities.

Prior to the arrival of HQ/3-43 ADA and its battalion Information Coordination Central (ICC), Kuwaiti Tactical Directors (TDs) controlled U.S. Patriot fire units - a first. Further cooperation was demonstrated between U.S. and Kuwaiti Patriot forces when U.S. crews manned the Kuwaiti ICC and controlled all coalition Patriot fire units during several TAC Tuesday exercises. The USAF's 4414th Air Control Squadron's (ACS) CRE participated in all air battle training sessions, Tactical Tuesdays, and TBM early warning exercises with the Patriot crews and coalition forces in the Kuwait JOA. In addition, several other coalition "training firsts" were conducted during Operation DESERT THUNDER. Kuwaiti Air Force F-18s and U.S. Navy EA-6Bs were



Patriot, in the foreground, stands guard over theater-level critical assets.

integrated into TAC Tuesday exercises, enhancing the overall training proficiency of aircrews, and air and missile defense forces. U.S. and Kuwaiti Short Range Air Defense (SHORAD) forces provided support to Patriot batteries by defending blindspots, while in turn, Patriot batteries provided early warning to the SHORAD systems.

To further solidify combat readiness and training, a combined Operational Readiness Evaluation (ORE) team was established. The ORE team was comprised of U.S. and Kuwaiti technical and operational evaluators, and conducted training and "no notice" readiness evaluations of all Patriot units in the Kuwait JOA. A coalition "Best Crew" competition was also established, which validated the intense training program, integration efforts, and cooperation between U.S. and Kuwaiti Patriot units. At the same time, the program fostered a healthy and competitive atmosphere among coalition Patriot units. Another first, a radar Jamming Exercise (JAMEX) was completed using EA-6B aircraft from the Independence Carrier Battle Group, the U.S. Air Force CRE, and U.S./Kuwaiti Patriot batteries. The exercise provided Kuwaiti air defenders with their first opportunity to experience live jamming. Additionally, lateral ICC operations (U.S./Kuwaiti ICCs sharing, correlating, and passing an integrated air picture) was successfully executed for the first time in this AOR. This effort paved the way for future electronic jamming exercises as other Carrier Battle Groups conduct deployments into the region.

The requirement for using external live feeds and simulation to maintain a “training edge” became obvious as Operation DESERT THUNDER became a protracted affair. The ADP-based systems within the 32d AAMDC TOC required it. The 32d AAMDC approached integrated collective unit training from 30 March to 2 April 1998 by using simulation support provided by Space and Missile Defense Command (SMDC). The simulation originated from the SMDC Battle Lab in Huntsville, Alabama via SIPRNET connectivity and utilized dual Advanced Research Telecommunication Interface Console (ARTIC) equipment to format and decipher simulation traffic. Existing SIPRNET communications capability were both a reliable and cost effective means of achieving end-to-end simulation connectivity. This realistic training was conducted halfway around the globe from the SMDC Battle Lab, without a single trainer deployed to Kuwait. Normally, the entire collection of simulation hardware and associated communication links are physically located at the same training site or installation. The battle lab used simulation and communication devices that replicated the information normally sent to the operational workstations in the 32d AAMDC TOC.

The simulations depicted a realistic picture of expected activities in the Kuwait JOA, and provided a medium for rehearsal of TAMDC operations. The robust simulation utilized models such as Eagle MODSAF, EADSIM, TAFSM, AFATDS, and JSTARS. Additionally, a stand-alone TBM simulation model, the Portable Space Model (PSM), was provided by US Space Command as an in-theater TBM launch model capable of injecting TBM launch data during training periods in concert with the other simulations, or on a stand-alone basis. The interactive simulation allowed the 32d AAMDC to request retasking of sensors and fires through a simulated Deep Operations Coordination Cell (DOCC), Battlefield Coordination Detachment (BCD) and the AOC. Simulation training support, particularly when deployed, is a must for the 32d AAMDC to maintain and elevate combat readiness. The simulation package executed during DESERT THUNDER demonstrated the ability to execute critical battle drills using real terrain, real world order of battle information, and a realistic threat capability.

Operation DESERT THUNDER Lessons Learned

There were several lessons learned from Operation DESERT THUNDER that played a key role in improving the Nation’s JTAMD warfighting capability prior to OIF. First, the Army recognized the requirement for and reliance on Reserve Component augmentation. The 32d AAMDC is a multi-component organization that relies on Reserve Component (RC) personnel to fill critical positions. Without a Presidential Selective Reserve Call-up (PSRC), the 32d AAMDC initially deployed to DESERT THUNDER without its compliment of Reserve Component soldiers. The absence of RC personnel forced the 32d AAMDC to accept reduced manning or no manning at several key command and control nodes within theater. The command would face similar challenges during OIF as well. Army leadership made the decision in 1996 to activate the 32d AAMDC as a multi-component headquarters with the requirement to rapidly deploy with a trained and ready force, on short notice, to anywhere in the world. Each contingency provided more lessons learned.

Second, the Army recognized the importance of coalition training and integration. One of the great successes of this operation was the integration of Kuwaiti Patriot units into the CJTF-KU Theater Air and Missile Defense design. The integration and training between coalition air defense forces established a coherent and viable air and missile defense of USCINCENT critical assets, demonstrated the interoperability of equipment, fostered development of common TTPs, enhanced combat readiness,

and strengthened trust and confidence. Third, the Army realized that it needed to create integrated, exportable training packages to allow for realistic, battle-focused TAMD warfighting scenarios. The requirement for providing simulation for training was recognized as essential in order to sustain the training level and maintain the highly perishable skills of 32d AAMDC personnel during an extended deployment. An imbedded or exportable training package, which replicates information sent to the 32d AAMDC TOC workstations, was required. Simulation training has long-since been heralded as essential to achieve and maintain combat readiness at home station. This would become even more critical for training during contingency operations.

Fourth, given the fact that we were going to maintain a footprint in the region, the Army developed the Patriot Reduced Readiness Battery (RRB) concept. The concept of maintaining Patriot RRBs in Southwest Asia was revalidated during Operation DESERT THUNDER. The Army has maintained a Patriot Task Force in the SWA since 1991 and over the years has reduced the manning level of some of the Patriot batteries to an 18-20 personnel RRB. Their primary responsibility was maintaining the system, and if required, emplacing the equipment and conducting combat operations until the remainder of the unit arrives. RRB personnel were on a 52-hour alert stand-by, and were periodically alerted and deployed to the AOR. During Operation DESERT THUNDER, TF 1-1's RRB was alerted and deployed well within the 52-hour requirement as part of the force build-up.

Fifth, there must be a theater-wide Air and Missile Defense plan, but at the time there was no integrated plan in place for Southwest Asia. A TAMD plan was required for the CENTCOM AOR in order to effectively coordinate and integrate all components operating in theater. Absence of such a plan leads to confusion and complicates execution of TAMD operations.

Sixth, there was no growth to the Operational Task Link (OPTASKLINK) and no Joint Interface Control Officer (JICO). A NAVCENT-produced OPTASKLINK existed for the initial flow of units into the theater. Upon arrival of additional units, no updates were made to the OPTASKLINK. Therefore, there were no control procedures for establishing voice and data communications for newly arriving units. All units entering the theater not previously built into the preplanned OPTASKLINK had to be added in order to properly identify their requirements, and incorporate them into the network. The lack of a JICO in theater compounded the problem as no one was in charge of actually implementing and monitoring the OPTASKLINK nets. Track duplication and possibility of fratricide are greatly increased when conducting operations under these conditions. A JICO cell is required in theater to monitor and control all units entering or exiting voice or data networks.

Finally, the JTAMD community needed to refine its Attack Operations processes. To accomplish this, a detailed IPB of enemy tactical missile activity and infrastructure, which included detailed planning and integration of theater and national collection assets, was needed. There had to be a balance between the need for pre-ATO JTAMD attack operations and other pre-ATO requirements (i.e. ATACMS, fighter aircraft, SOF). The key was to disrupt the enemy TBM battle rhythm before he could affect the campaign plan. Early in campaign, we had to destroy or at least disrupt the enemy's TBM capability on the ground in order to reduce the pressure on coalition active and passive defense systems. The focus needed to be on "theater effects", not merely on how many TBMs were destroyed. "Theater Effects" are those things that have the most direct impact on the Combatant Commander's ability to execute his campaign plan. As a result, the 32d AAMDC began focusing much more on the critical aspects of campaign execution such as sortie generation rates, TPFDD throughput rates, disruption of the enemy's

TBM firing plan and our ability to maneuver freely. As long as the Combatant Commander could maintain the required sortie generation and TPFDD throughput rates, disrupt or slow down the enemy's TBM firing plan, and maintain his operational momentum on the ground, TAMD forces were successful. Too often in the past, success in TAMD was quantified only in terms of how many TBMs were launched and how many were destroyed. By leveraging Attack Operations against the enemy, the Combatant Commander is able to reduce the number of enemy TBMs launched against his forces, and thereby reduce the theater effects of those launches on his overall campaign plan.

Revolutionizing the TBM-IPB Process

In order to improve overall Attack Operations, the 32d AAMDC needed to first improve its TBM-IPB tactics, techniques and procedures. The 32d AAMDC intelligence staff's efforts have concentrated on conducting intelligence support, planning, deployment, and recovery operations for TBM exercises FOAL EAGLE, BLUE FLAG, LUCKY SENTINEL, NORTHERN EDGE, ROVING SANDS, and ULCHI FOCUS LENS. These exercises afforded excellent training opportunities for command's intelligence soldiers and aided in refining TBM intelligence Tactics, Techniques, and Procedures (TTPs). The G2 continued efforts to fuse all-source intelligence support from national, theater, and operational intelligence commands tailored to meet the challenges of TMD.

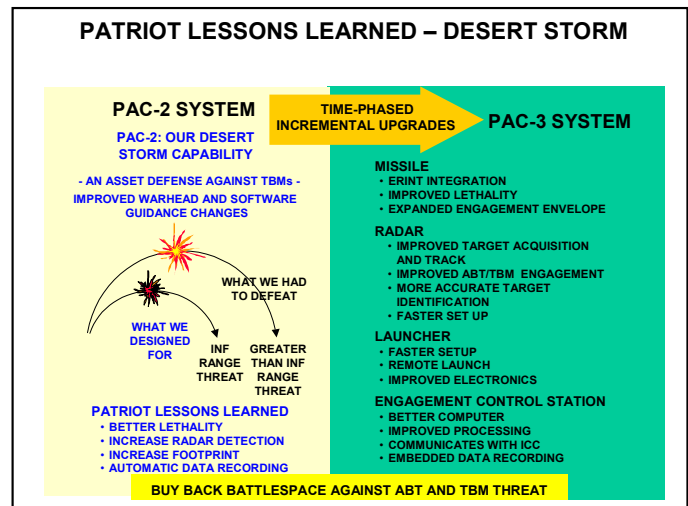
Particular emphasis centered on improving TBM Intelligence Preparation of the Battlespace (IPB) and refining intelligence TTPs to better battle-track the TBM fight and link these operations to TBM collection management and targeting processes. The G2 Plans and Analysis section assisted the Air Land Sea Application (ALSA) Center in producing multi-service procedures for TAMD. These include: FM 3-60.1, The Joint Targeting Process and Procedures for Targeting Time-Critical Targets and FM 3-01.16, Missile Tactics, Techniques, and Procedures (MTTP) for Theater Missile Defense Intelligence Preparation of the Battlespace. Additionally, the G2 Plans and Analysis section continued to update the intelligence portion of all theater Operation Plans (OPLANs).

In addition to exercise support, G2 Operations worked on developing G2 training and certification programs and garrison and field operating procedures. G2 Operations began coordinating and sharing intelligence efforts among Fort Bliss units. Quarterly intelligence forums were held to discuss common intelligence, security, training and personnel management concerns. Finally, G2 Operations coordinated and conducted intelligence system training on the All Source Analysis System (ASAS), Generic Area Limitation Environment (GALE), and Joint Service Workstation (JSWS) for both AC and RC soldiers.

Prior to DESERT THUNDER, little approved doctrine existed to guide 32d AAMDC personnel in the execution of Army, joint and combined JTAMD operations. As a result, a major effort began to produce a 32d AAMDC doctrinal manual in only a one-year period. This effort involved staff elements of the 32d AAMDC, various contractor agencies, and the Fort Bliss Directorate of Training and Doctrine (DOTD). FM 44-94, Army Air and Missile Defense Command Operations was completed and approved on 31 March 2000. The staff and contractors also were heavily involved in the development of: FM 100-12, Army TMD Operations, 31 Mar 00; FM 44-100, U.S. Army AMD Operations, 15 Jun 00; and FM 3-01-20, the JAOC/AAMDC Coordination MTTP, completed between 1999 and 2000. This progress would come to pay significant dividends during the counter-TBM fight in Operation IRAQI FREEDOM.

From DESERT STORM and PAC I to OIF and PAC-3

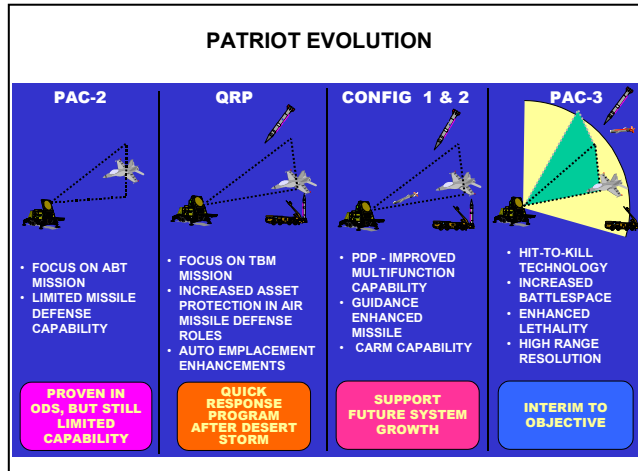
The Patriot mission was increased in the mid-1980's to provide limited air defense against TBM threats using upgrades called Patriot Advanced Capabilities (PAC). The PAC-1 and PAC-2 programs were developed to allow the Patriot system to defend itself and critical assets against the increasing TBM threat and to continue to carry out its primary mission of providing defense against aircraft. However, the PAC-1 capability only consisted of software changes designed to provide self-defense and limited asset defense capability against incoming enemy TBMs. It accomplished this through the fielding of Post Deployment Build (PDB) software.



The PAC-2 improvements included additional software (PDB-3) and hardware changes to the missile that provided the capability to detect, track, evaluate, and engage the low Radar Cross Section (RCS) air and missile threats. The hardware changes consisted of modifications to the warhead and fuse to establish the lethality required against the TBM threat. The warhead provided greater fragment velocity, improved spray patterns, and larger fragments. The dual-mode fuse provided a more forward looking antenna with selectable fuse antenna beam and reduced reaction time for engagements. Missile round physical characteristics, handling, and maintenance requirements remained the same.

In order to take Patriot to the required level of effectiveness, the Army initiated the PAC-3 Growth Program, which was a time-phased fielding of a series of hardware and software modifications designed to improve performance against an evolving threat, meet user needs, and correct existing system deficiencies in a timely and affordable manner. Hardware solutions were being introduced through a “sweepdown” program with concurrent software solutions programmed as PDB releases. Configuration sweepdowns and software deployments occurred after successful completion of each phase of operational testing.

The PAC-3 Growth Program was not implemented all at once, but through a series of upgrades called “configurations.” Each configuration consisted of a group of modifications that were scheduled to be fielded in the same timeframe. Configuration groupings are a convenience for managing block changes of hardware and software and are not performance-related groupings. However, incremental increases in performance were determined for each configuration in order to provide benchmarks for configuration testing and for the development of user doctrine and tactics. Each modification was tested and procured individually. In accordance with the PAC-3 Operational Requirements Document (ORD) fielding concept, each ground equipment configuration (1, 2, and 3) was fielded through a hardware retrofit and concurrently released post-deployment software build. The chart below depicts how Patriot progressed through each phase of modernization from DESERT STORM and PAC-2 to OIF and PAC-3.



The Quick Response Program (QRP) enhancements provided Patriot with improved emplacement capability and improved intercept capabilities for a larger area of defense against tactical ballistic missiles. It also provided numerous auto emplacement enhancements for the system. Production of QRP modification kits began in June 1992, and retrofit of fielded units started in September 1993. These enhancements of the PAC-2 system, along with the PAC-2 missile, established the baseline for the PAC-3 program.

Configuration-1 (Config-1) enhancements were modifications needed to support future growth of the Patriot system. Production of Config-1 modification kits began in January 1994, and the retrofit started with the Patriot test battalion in 3rd quarter FY95. Config-1 includes a new Expanded Weapons Control Computer (EWCC) and Optical Disk (OD). However, this was not a major software upgrade and was based on PDB-3 QRP. It was accomplished using a “Mini-Sweep” software build. The Config-1 Production Confirmatory Test (PCT) was conducted 3rd quarter FY95. Config-2 enhancements grouped in this configuration provided improvements in radar performance, communications, positive identification, and survivability. Fielding of these enhancements started in 1st quarter FY96 and ended in 3rd quarter FY96. A Materiel Release Review Board (MRRB) convened to authorize configuration hardware and PDB-4 software release to the field. Config-1 and Config-2 upgrades provided greater multifunction capability, a Guidance Enhanced Missile (GEM), and a counter-anti radiation missile (CARM) capability.

Config-3 consisted of seven major improvements. Included were three hardware modifications (REP-III, CDI-3, and RLCEU), one new start program (PAC-3 missile), and three software upgrade programs (PATRIOT/THAAD Interoperability, JTAMD Interoperability, and Launch Point Determination [LPD]). These enhancements provide the Patriot system with the improved capabilities required by the PAC-3 ORD. Config-3 testing was conducted from November 1998 through October 1999 and a first unit equipped (FUE) occurred in September 2001. Config-3 was implemented by PDB-5 software. Once the PAC-3 missile was combined with Config-3 Patriot ground equipment, the force had hit-to-kill technology, increased battlespace and higher range resolution.

The Advent of the PAC-3 Missile

The PAC-3 missile program built upon the success of the Flexible Lightweight Agile Guided Experiment (FLAGE) program that was initiated in 1983 as the Small Radar Homing Intercept Technology (SRHIT) program. The FLAGE flight test program was terminated after the FLAGE missile successfully intercepted and destroyed a LANCE target missile in May 1987. During the time FLAGE flight tests were being conducted, there was a parallel technology development program being conducted to develop components and subsystems that would extend the range and altitude capability of the FLAGE vehicle. At the termination of the FLAGE program, the ERINT became a flight test program to demonstrate the capability of the enhanced components and subsystems.

The ERINT missile DEM/VAL program was focused on fabrication and testing of prototype missiles and ground support equipment to demonstrate Hit-to-Kill (HTK) missile performance and assess and reduce risks associated with integrating the PAC-3 missile into the Patriot system. Significant achievements during DEM/VAL demonstrated the potential for the PAC-3 missile to meet all of its operational requirements as set forth in the PAC-3 ORD. Flight tests, sled tests and simulations showed that the PAC-3 missile's body-to-body contact generates sufficiently high destructive energy against TBM. This energy provided greatly improved lethality over the PAC-2 missile. Flight validated simulations also showed that the extended effective range, altitude, and accuracy of the PAC-3 missile provide a significant increase in battle space with respect to the PAC-2 missile.

There were two candidate missiles for development as the PAC-3 missile. The missiles were developed in parallel and reflected different technologies. The Multimode Missile was an improved version of the PAC-2 Missile and used an aimed-fragment warhead. The ERINT Missile was an outgrowth of the FLAGE and employed HTK technology. Since there were insufficient funds to carry both missiles into EMD, the decision was that only one of the candidate missiles, if approved, would be selected for entry into the EMD Phase.

In May 1993, a special Army Systems Acquisition Review Council (ASARC) was held to establish an Army position on how the PAC-3 Missile should proceed. On 11 February 1994, the ASARC selected the ERINT missile candidate as the PAC-3 missile. The Army believed the Multimode Missile fused warhead technology was insufficiently lethal against stressing TBM targets, and that ERINT's HTK lethality against TBMs carrying chemical submunitions or nuclear weapons during critical operational phases of a conflict could provide a decisive military advantage. The Defense Authorization Board (DAB) authorized the PAC-3 Missile Program to enter the EMD Phase and approved production of 90 missiles.

Based on the favorable DAB decision, the PAC-3 missile EMD phase began with the award of a sole source contract to Loral Vought Systems, the PAC-3 missile developer, on 26 October 1994. A sole source contract was awarded on 31 October 1994 to Raytheon Company, the Patriot system prime contractor, for integration of the PAC-3 missile and ground support equipment into the PAC-3 system. Raytheon Company and Loral Vought Systems were required to execute an Associate Contractor Agreement (ACA) to ensure successful integration of the PAC-3 missile into the Patriot system.

On 10 December 1996, the Under Secretary of Defense (USD) approved the IPT structure and approach, the revised exit criteria, benchmarks and milestone documentation for the PAC-3 program. On 28 March 1997, the PEO, AMD approved the Limited Procurement Authorization (LPA) and PAC-3 missile decisions. The LPA authorization included ten Enhanced Launcher Electronics System (ELES) launchers and four Fire Solution Computers (FSCs).

By 17 April 2000, Ballistic Missile Defense Organization (BMDO) and the Patriot Project Office (PPO) briefed the USD on the progress made in developing the PAC-3 missile, cost baseline, and strategies for reducing missile production costs. The USD concurred with the strategies and gave approval to award the LRIP-1 contract to assemble the FY00 missiles. The assembly contract was awarded 19 May 2000 for 32 PAC-3 missiles, 11 ELES, and 18 FSCs. On 16 November 2000, the Lower Tier Project Office (LTPO) briefed the Director, BMDO on an alternative program schedule that was subsequently approved. The revised schedule maintained FUE-M in 4th quarter FY01, but moved Integrated

Operational Test and Evaluation (IOTE) to FY02. The LRIP-2 contract for production of 40 PAC-3 missiles, 6 ELES, and 9 FSCs was awarded on 1 December 2000. The LRIP-3 contract for production of 72 PAC-3 missiles, 6 ELESs, and 9 FSCs was awarded on 20 March, 2002.

The PAC-3 missiles went through a barrage of tests before fielding, but there were five tests that stood out. The first two, called DT missions, were designed for verifying system missile-launch functions and interfaces. Missile flight functions (initial turn, in-flight alignment, RFDL operation, guidance, and navigation) and missile operations in representative flight environments (aerodynamic, shock/vibration, and thermal) were tested. The DT-1 and DT-2 missiles employed a test nose section in lieu of the seeker section. The DT-1 mission on 29 September 1997 was a successful “shake, rattle, and roll” mission to evaluate airframe response to flight loads and self-induced maneuvers. The DT-2 mission on 15 December 1997 was a successful extended range, extended flight time, endurance data-gathering mission. The third major test was called the SCF and was an engineering test for characterizing seeker performance and integration through the homing phase for a short-range, low-altitude TBM target engagement. This test was conducted at White Sand Missile Range (WSMR), New Mexico on 15 March 1999. In this mission, the PAC-3 missile successfully achieved body-to-body intercept on a Hera Ballistic Reentry Vehicle (BRV) target carrying submunitions. The fourth test, the DT-8 flight test, was conducted on 31 March 2001 at WSMR. DT-8 was the first PAC-3/PAC-2 missile simultaneous engagement of multiple TBM targets and, at that time, was the seventh consecutive intercept by the PAC-3 missile. The fifth major test, on 30 May 2002, was the OT-2 Mission was conducted at the Reagan Test Site (RTS), formerly known as Kwajalein Missile Range (KMR). This test consisted of a PAC-3 missile engagement against an MBRV-2 launched from Wake Island. The PAC-3 missile was fired from a remote PAC-3 LS located on Gellinam Island, demonstrating the Patriot system’s ability to fire a PAC-3 missile from a remote launcher. The PAC-3 missile intercepted and killed the MBRV-2 target.

NEAR-TERM PREPARATION, September 2001 - September 2002

The Effects of 9/11 on the 32d AAMDC

Fiscal Year 2002 began with continuation of preparations for possible deployments in response to the destruction of the World Trade Center and the attack on the Pentagon. Home Land Security (HLS) became known as Operation NOBLE EAGLE, and the military retaliation against Afghanistan was named Operation ENDURING FREEDOM. The 32d AAMDC remained at a high state of security and continued to enforce the increased security measures. Forty five Detachment One soldiers were mobilized and deployed to Fort Bliss on 27 September 2001. Thirty-one additional 32d AAMDC Detachment One personnel arrived at Fort Bliss, Texas, on 11 November 2001. This brought the total number of mobilized Florida Army National Guard to 76 personnel and the command’s total strength to 166 military personnel.

On September 27, 2001, just sixteen days after the September 11th tragedy, the 32d AAMDC was ordered to deploy a planning cell of five to seven people to Prince Sultan Air Base (PSAB), Saudi Arabia to co-locate with the Combined Air Operations Center (CAOC). The team arrived on 2 October 2001. No one knew scope of the potential threat at that time; just not enough details available, but they quickly learned that the mission required additional personnel and the team grew to 18 personnel. The mission of this cell was to support planning, coordinating, integrating and execution of theater level

missile defense operations. The same order placed the 32d AAMDC on notice to deploy a small tactical operations center (TOC) to PSAB to perform duties as Deputy Area Air Defense Commander (DAADC) and assist Combined Forces Air Component Commander (CFACC) to integrate Army air defense forces into the regional plan. The 32d AAMDC was also told to deploy a 2 person liaison cell to Army Central Command in Atlanta and to be prepared to deploy a TOC to Camp Doha, Kuwait to perform its doctrinal role of coordinating TAMDC for the CFLCC.

The PSAB planning team's first mission was to look at the entire theater and determine if there was a terrorist threat to U.S. and Coalition assets posed by threat aircraft, namely terrorist aircraft or hijacked aircraft. Each component headquarters believed there were some vulnerabilities in AOR. This mission was called the CFACC Theater Air and Missile Defense Integrated Planning Team (CTIP) and the team looked at whether SHORAD could counter the potential threat and, if so, should it. The 32d AAMDC deployed two individuals to participate in the 20-man assessment team. The CTIP team found that the threat was in fact low to moderate, and vulnerabilities did exist, but that the threat was better countered with passive defense rather than active defense measures. In addition, there was substantial host nation resistance from most of the countries surveyed. The twelve personnel who had been deployed to SWA at the beginning of Operation Enduring Freedom were rotated back to Fort Bliss, Texas and an additional 17 positions were filled with personnel from the 32d AAMDC. These personnel were assigned for 179 days or upon release from the liaison mission, whichever came first. The 32d AAMDC would end up maintaining a presence at PSAB and Camp Doha until the execution of OIF.

Activation and Certification of the 263d AAMDC (SCARNG)

On 12 October 2001, a request was made to Forces Command (FORSCOM) for activation of the 263d AAMDC from the South Carolina Army National Guard. This activation would allow the 263d AAMDC to immediately commence critical TAMDC training. The plan was to assign the 263d AAMDC responsibility for the HLS air defense mission or a second MTW, whichever came first. The 32d AAMDC developed a training plan and forwarded it to FORSCOM for approval. FORSCOM approved the plan and requested the activation of the 263d AAMDC with assignment to Fort Bliss, Texas. The advance party arrived with seven personnel on 13 November, and the main body arrived with 94 personnel on 15 November. Contractor personnel from CAS Inc., SY Technologies, and The Edge were tasked to provide training along with select military instructors. Senior leader and situational awareness briefs began on 23 November, with formal training beginning on 26 November. Training consisted of Combined Arms Training Strategy (CATS) Tables I-IV, march order and emplacement, communications, initialization, box training and integration, and situation awareness training using both stand-alone and simulation-driven work stations. Training was conducted through the Christmas holidays and culminated with a final 96-hour Mission Rehearsal Evaluation and after action review (AAR) on 5 January 2002. In addition, thirteen 263d AAMDC soldiers also attended the Patriot 14J course at Fort Bliss, Texas. Upon completion of course, they were awarded Military Occupational Specialty (MOS) 14J, which allowed them to fill vacant 263d AAMDC Table of Organization and Equipment (TO&E) slots.

Three Missions at Once

During this time period, the 32d AAMDC was stretched to its limits. The command had to simultaneously execute three separate missions: (1) TAMDC planning for real-world contingency

operations in SWA with its forward planning teams at PSAB and Camp Doha; (2) exercise planning and execution of five theater-level exercises in a 6-month period; and (3) maintenance of the command's Emergency Operations Center (EOC), which performed 24-hour operations as it not only monitored current operations stateside, but also performed critical planning functions for potential air defense missions both at home and abroad.

Exercise planning continued for participation in RECEPTION, STAGING, ONWARD MOVEMENT, AND INTEGRATION (RSOI) and FOAL EAGLE (FE), LUCKY SENTINEL (LS), MILLENNIUM CHALLENGE (MC), ULCHI FOCUS LENS (UFL), INTEGRATED MISSILE DEFENSE (IMD) and ROVING SANDS '03 (RS). Seventeen personnel were deployed to Korea in March 2002 to participate in RSOI/FOAL EAGLE and four additional personnel deployed to Southwest Asia (SWA) to augment the 32d AAMDC personnel who were already in country in support of a downsized LUCKY SENTINEL exercise held in April 2002. The principle training audiences for LS 02 were the Kuwaiti Armed Forces. The 32d AAMDC provided a valuable role as both facilitator and trainers. In addition to assisting our coalition partners, LUCKY SENTINEL provided us an opportunity to familiarize our leaders on regional war plans along with command and control procedures in a joint/combined environment.

Millennium Challenge Spiral #3 was conducted from 3-10 June 2002 at Nellis Air Force Base, Nevada and JTASC in Suffolk, Virginia. Spiral #3 consisted of eleven days of training using a 12-hour battle rhythm. The first two days encompassed functional training. The next seven days consisted of developing component OPLANs, Time-Phased Force Deployment Data (TPFDD), and backbriefs. The final two days included component rehearsals. Manning documents were submitted through Forces Command (FORSCOM) to Joint Forces Command (JFCOM) to include all personnel participating in the event.

JFCOM conducted experiment Millennium Challenge 2002 (MC 02) 24 July – 15 August 2002 at locations along the east coast and in the western U.S. training ranges. The experiment was executed primarily in simulation with limited live force participation from the Services. One of the main purposes of MC 02 was to exemplify the concepts for organization, equipment, and doctrine conceived under Joint Vision 2010, Joint Vision 2020 and the current vision statements of the respective Service Chiefs. The 32d AAMDC deployed to Nellis Air Force Base to collocate with the Combined Air Operations Center (CAOC) and sent liaison teams to support the Commander, Joint Task Force in Suffolk, VA and Joint Forces Land Component Commander (JFLCC) at Camp Lejeune. The 32d AAMDC also fulfilled the doctrinal roles of Deputy Area Air Defense Commander (DAADC), Theater Army Air and Missile Defense Coordinator (TAAMDCOORD), and commander, echelon-above-corps air defense brigades. A primary 32d AAMDC focus was to assess the Future Operational Capability Tactical Operations Center (FOCTOC) and provide recommended improvements to the Space and Missile Defense Battle Lab (SMDBL). The FOCTOC would end up being deployed as the 32d AAMDC's command headquarters during OIF.

On 10 August 2002, eighty-five personnel deployed to Korea to participate in the PACOM exercise UFL. Participants included Seventh Air Force, Eighth United States Army (EUSA), Republic of Korea (ROK) forces, and numerous forces from Army, Air Force, Marine Corps and Navy that were on the TPFDDL to provide wartime support to the Korean theater. Personnel were integrated into the TAMDC joint staff as well as the Eighth Army administrative and logistics staff. The exercise was conducted

over a two-week period in which maneuver and Theater Air and Missile Defense forces repelled an attack from hostile forces.

By September 2002, both the 32d AAMDC and the JTAMD community were ready for any potential contingency. The lessons from DESERT STORM and DESERT THUNDER had not merely been lessons gathered, but had indeed become lessons learned. The 32d AAMDC had been created, the PAC-3 system was underway, and the several JTAMD exercises had been conducted to ensure that all TTPs were understood by all participants, to include coalition partners in SWA. The 32d AAMDC was ready – all they needed now was an order.

CHAPTER II - PREPARING, MOBILIZING, AND DEPLOYING THE ARMY

STRATEGIC INFILTRATION, September 2002 – January 2003

Strategic infiltration of JTAMD forces was critical to setting the theater conditions. In this phase, the focus was on building TAMD combat power and simultaneously deploying and integrating these forces into an operational force prior to commencement of hostilities. Priority coverage went to the CENTCOM Critical Asset List (CAL). The 32d AAMDC maintained operational control of all Patriot forces during this phase. The attack operations cell of the 32d AAMDC worked on developing TMD target sets for inclusion in deliberate and time sensitive targeting during combat operations. The passive defense cell further refined the early warning architecture and took measures to reduce vulnerability and enhance survivability of coalition forces. The ultimate goal of this phase was to deter Iraq from launching a preemptive air or missile attack against coalition forces.

The Planning Begins



Brigadier General Howard B. Bromberg, CG, 32d Army Air and Missile Defense Command.

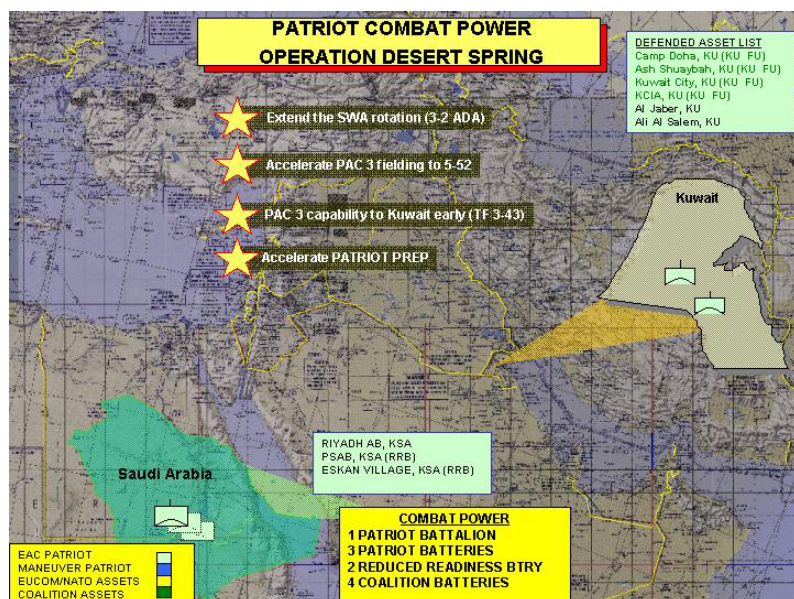
The use of strategic lift was key as the 32d AAMDC tried to maintain a balance between its strategic and tactical stance with respect to Air and Missile Defense combat power in the theater. Specifically, the 32d AAMDC had to plan for simultaneous deployments of Patriot forces to strategic assets in Kuwait, Bahrain, Jordan, Saudi Arabia, Qatar, Israel and Turkey as well operational and tactical-level assets in the V CORPS and I MEF area of operations. However, Operation IRAQI FREEDOM was not the first time Patriot forces had deployed to the Southwest Asia theater. AMD forces had been maintaining a strategic stance in theater ever since the end of the Gulf War in 1991, most recently in support of Operation Desert Spring (ODS). The next

scheduled ODS Patriot deployment was conducted by TF 3-43 ADA in September 2003, and the 32d AAMDC took advantage of an opportunity to push combat power into theater early.

“Placing PAC-3 with the TF 3-43 ADA SWA rotation paid tremendous benefits because early on in the campaign, we had a force on the ground in Kuwait that was the most capable force for the nation. And I thought that was significant.” – BG Howard B. Bromberg, CG, 32d AAMDC

Prior to the deployment of forces to the CENTCOM AOR in support of OIF, there were existing forces in theater on rotation for Operation Southern Watch and Operation Desert Spring. A total of five U.S. Patriot batteries were already in theater defending critical assets. These assets included: Ali Al Salem Airbase, Kuwait (B/2-1 ADA); Al Jaber Airbase, Kuwait (D/2-1 ADA); and Riyadh Airbase, Saudi

Arabia (A/3-43 ADA). In addition, reduced readiness batteries were emplaced at Eskan, Saudi Arabia and Prince Sultan Airbase (PSAB), Saudi Arabia. Additionally, in Kuwait, the Kuwaitis had five batteries of Patriot protecting national assets; at this time, they were only manning four of these systems.



Due to the continued planning on 1003V and the increasing likelihood that some form of offensive operations were going to occur in Iraq in the near future, the 32d AAMDC decided to begin pushing the new Patriot Advanced Capability (PAC-3) capability forward into theater. To accomplish this, the 32d AAMDC deployed elements of 2-1 ADA as part of TF 3-43 ADA, which was a PAC-2 Patriot battalion. The intent was to locate PAC-2 Patriot batteries from 3-43 ADA in Saudi Arabia while positioning the PAC-3 fire units from 2-1 ADA north to cover critical theater-level assets in Kuwait. If hostilities broke out, the plan was to assume risk in Qatar,

Bahrain and Saudi Arabia in the south with PAC-2 in order to weight the PAC-3 capability for the protection of Kuwait and maneuver forces in the north.

Critical to the success of TAMD in the region was the decision to accelerate the fielding of the PAC-3 missile and launchers prior to deployment. Because a Patriot battery must possess both the improved Config-3 ground equipment (e.g radar and communications upgrades) and the PAC-3 missile in order realize the full benefit of the new PAC-3 capability, the 32d AAMDC pushed for the accelerated fielding of PAC-3 missiles and launchers to the field. Most units had Config-3 radars but not the PAC-3 missile or ELES launchers. The ELES launchers came in first and were deployed, and then the 32d AAMDC waited for a total of 54 PAC-3 missiles to arrive. While the 32d AAMDC's efforts helped push PAC-3 capability into theater sooner, it still had to account for the interoperability challenges that would exist between PAC-2 and PAC-3 Patriot units in a combat environment. In addition to the accelerated fielding of PAC-3 missiles and launchers to the field, the 32d AAMDC also facilitated the accelerated fielding of the Post Deployment Build-5+ (PDB-5+) software to the field. This software upgrade allowed PAC-2 and PAC-3 Patriot units to communicate on the battlefield.



Equipment is assembled in the marshalling area at the Ash Shuaybah port for onward movement.

Another preparatory task was the movement of 1069 Patriot missiles worldwide. The movement of Patriot missiles from three locations in the United States, Europe, and Saudi Arabia to fire units in seven countries was a remarkable accomplishment. Additionally, the 1069 missiles were comprised of four

different types. These four different missile types each had unique capabilities, which had to be moved to specific locations throughout the Middle East based on the various missile capabilities against the various threats. Missile movements by truck, rail, sea, and air was an accomplishment that proved vital to the anti-tactical ballistic missile capability in theater during OIF.

In the summer of 2002, the G2 section prepared for deployment to theater. Representatives traveled to CENTCOM to participate in a joint TBM-IPB conference with national intelligence agencies and other command and services. This joint IPB process yielded approximately 650 possible hidden launch sites or forward operation bases (FOB) in Iraq initially used to focus ISR collection. All 650 sites were assigned Basic Encyclopedia Numbers (BEN) and added to the Modernized Integrated Database (MIDB) and Joint Targeting List. The G2 provided this for analysts to update sites, conduct research and discuss specific hide sites from a common reference point. Other groups that aided in this effort were CENTCOM, NIMA, STRATCOM, MSIC, NGIC AND JAC. National Intelligence support was particularly important to the counter-TBM fight. Mr. Steve Hancock, a TBM subject matter expert from the Missile Space Intelligence Center, deployed to Southwest Asia and officially attached to the 32d AAMDC. He helped bridge the gap between the war fighting commands and national agencies.

Later, in October 2002, the G2 section sent Major Tim Mersereau to the weapons of mass destruction (WMD) Cell at CENTCOM. As a liaison officer, he provided 32d AAMDC with much visibility and situational awareness of the rapidly developing Iraqi counter-TBM mission. By November 2002, the G2 leadership included LTC Duncan and Sergeant Major Seibel. They deployed to Kuwait and later proceeded to the Combat Air Operations Center (CAOC) at Prince Sultan Air Base (PSAB) in Saudi Arabia to establish the theater's counter TBM cell. WO1 Hall deployed to Camp Doha, Kuwait to assist Major Carr in setting up the 32d AAMDC cell at CFLCC headquarters. An alternate cell was set up at CFACC in PSAB as well. Both cells were functional by January 2003.

The TPFDDL



BG Bromberg with CPT Zapolis, 5-7 ADA, in Israel.

Deployment of TAMDC forces in support of 1003V was conducted through the execution of CENTCOM Requests for Forces (RFFs) as opposed to a formal TPFDDL. Deployment of these forces was executed through various Force Modules called “serials.” However, the basis for those tasking decisions actually began months earlier with a conference and a series of exercises conducted to test the command and control abilities of 32d AAMDC. 32d AAMDC participated in a significant number of conferences throughout the month of August. CFLCC conducted a series of fires, maneuver, signal and operational support conferences during the month of August. CENTCOM hosted a planning conference to prepare for Internal Look 03 from 28 August 2002 –29

August 2002. Each of these conferences would contribute greatly to the synchronization of the commands activities within the contingency planning efforts. Theater Air and Missile Defense was to play an important role in setting the overall strategic stance in the region, as stated below by COL (P) Anderson, 32d AAMDC Chief of Staff:

“The TPFDDL changed many times and then suddenly the TPFDDL went away, and what became Force Modules was the name of the game. We went from the MODEP, ‘The Mother of All Deployment Orders’, to the ‘Son of MODEP.’ It was absolutely confusing! And there were times when I thought we were losing our handle on our tactical stance. There was tremendous pressure, I think, to get the strategic stance in because the strategic stance equated to the use of airbases and airspace. So, the ability to generate sorties was dependent upon Patriot being at those locations, even though a TBM could not reach some of these locations unless they were real close to the Kuwaiti border, and a good example of that is Qatar. The location of those Patriots allowed us to use airspace and airbases. It showed foreign governments that the Americans were going to protect them, and all we needed in return was airspace and some airbases. So, that became very important, and at times I thought it was going to conflict with our abilities to obtain a tactical stance.” – COL (P) Anderson, CofS, 32d AAMDC

One of the first hurdles the 31st ADA brigade headquarters staff overcame was the necessary integration into a Corps with which they had never previously worked. Beginning with e-mail and telephonic coordination with the V Corps Air Defense Element (CADE) and the 69th ADA brigade during November and December 2002, the 31st ADA brigade staff became familiar with their V Corps counterparts. This initial long-distance familiarization was followed by visits to Europe in January 2003 by members of the Brigade staff. The 31st ADA brigade staff participated in Exercise VICTORY SCRIMMAGE, a V Corps exercise designed to validate its Corps Operations Plan, from 20 January to 6 February. When asked about the effects the ever-changing TPFDDL had on her Brigade during the initial planning phases for the deployment, COL Brown responded,

“The TPFDDL affected my units as I was trying to deploy them in that I was not able to get my TOC in country as quickly as I needed to. This necessitated borrowing equipment from other units in order to stand up a TOC to C2 the brigade. Additionally, we were hampered with the movement of 6-52 ADA battalion, as they were the last Patriot unit to arrive in theater, other than 1-1 ADA who was not originally scheduled to go into Kuwait. Additionally, the fact that C and D/5-52 ADA were last on the TPFDDL made it necessary for us to task organize the battalion differently.”



**COL Heidi Brown,
Cdr, 31st ADA
Brigade.**

During this same period, COL Seward, commander of the 108th ADA brigade, had an initial meeting with the CG, 32d AAMDC to discuss potential upcoming brigade operations in SWA. During the meeting, BG Bromberg told COL Seward that the 108th ADA brigade was chosen to support the I MEF mission based on the brigade having trained on corps air defense missions with 18th Airborne Corps. As a result, the brigade participated in a MEFEX at Miramar and Camp Pendleton in fall of 2002. However, the 108th ADA brigade was not resourced by the MTOE for the number of LNOs this mission required. The brigade planned to have LNOs at I MEF (rear and forward), 1st MarDiv, 1st UK Div, the 3rd Marine Air Wing (III MAW), the Marine Tactical Air Operations Center (TAOC). LNO support also included all associated equipment, such as AMDWS and vehicles to support each of these cells. Most of all this came out of hide, but would become absolutely critical in maintaining

communications and situational awareness between the brigade and the MEF. This especially paid big dividends when it came to coordinating force protection for Patriot units moving forward with the maneuver force into Iraq.

At the same time, SHORAD units began preparations for what looked like an imminent deployment to Southwest Asia. 1-3 ADA (3ID) and 2-44 ADA (101st AA) still did not have official orders to deploy, but both started deep maintenance programs. In the case of 1-3 ADA, however, they did start sending additional equipment (Avengers, Sentinels, A2C2 shelters) over with the ADCOORD ahead of time when the DTAC deployed in November 2002 to participate in division-level planning for potential combat operations. The DMAIN was not to deploy until division troops deployed in January 2003. LTC Garrell, commander of 1-3 ADA, sent his S-2 and his entire ADCOORD section in November 2002 in order to facilitate parallel planning in CONUS and OCONUS. The group served as his forward C2 element. This was absolutely necessary for 1-3 ADA (3ID) in order to write an order in a timely manner prior to official division deployment. The 1-3 ADA ADCOORD section also deployed to Germany to participate in the V Corps CPX.

C/1-3 ADA received instructions to begin my change of command inventories in Jan 02 and prepare to deploy C/1-3 ADA with 3BCT as part of the IA CCRF force package. I completed my inventories in about 16 days and took command of C battery on 7 Feb 02 and immediately started deployment preparations and about 29 Mar 02 moved by strategic air to Kuwait as part of the CCRF 6-month rotation. We took our own equipment to the AOR to include the M6 Linebacker and a Sentinel radar section and followed by another Avenger platoon. We eventually departed on 23 Sep 02, but we left our Avengers, Linebackers and Sentinels in Kuwait along with five containers of associated equipment. – CPT Ruel Smith, Cdr, C/1-3 ADA

1-3 ADA had just had a battery return from an NTC rotation where they had heard some rumors in the October-November 2002 timeframe that a deployment might be forthcoming. They departed 18 October 2002 for the NTC rotation and returned 17 November 2002. They conducted pre-deployment training at Fort Stewart prior to deploying.

3BCT, 101st AA Division had just had units at JRTC and had redeployed in November 2002. In the November-December 2002 timeframe, the division began conducting a planning spin-up. So, 2-44 ADA began pre-deployment training in areas such as CTT, NBC, weapons qualification and maintenance. The division conducted a DEPEX in early

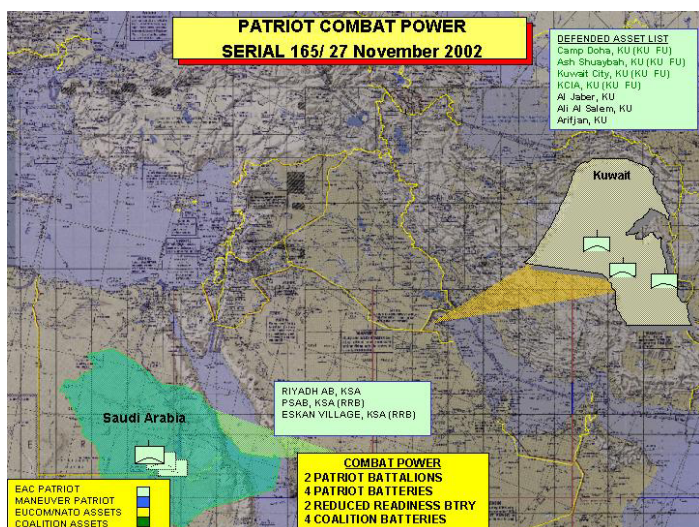
January 2003 for 3BCT, once personnel returned from the holiday leave schedule. The battalion then loaded all of its QUADCONS in preparation for an actual deployment. However, they were later allowed to unload these containers in order to resume critical training until the deployment order finally arrived.

Initial Deployment



Soldiers load a chartered aircraft at Ft. Bliss for deployment to Kuwait.

The first actual deployment order for an air defense unit outside of the normal SWA rotation orders was issued on 30 September 2002 by the 32d AAMDC when it published Warning Order (WARNO) number one. This order provided guidance for the initial deployment of Patriot forces to Southwest Asia to augment those already on rotation. The mission of the 32d AAMDC was to deploy a battalion headquarters with a Patriot battery and direct support maintenance company to Kuwait and to enhance existing TAMDC coverage of critical assets in Kuwait to support and



defend U.S. Central Command's (CENTCOM) deployment of forces into the region. At the time it was assessed that Iraq's military forces were conducting defensive preparations against a potential attack led by the United States. It was further assessed that if Saddam Hussein knew his regime was being directly threatened, he would most likely attempt to destabilize the region by launching limited, night-time missile strikes on Israel with Al Hussein missiles. It was expected that those strikes would continue for 24 hours accompanied by Al Hussein and Al Samoud launches against targets in Kuwait.

In order to counter this threat and meet the mission, the 32d AAMDC tasked the 35th ADA brigade to deploy 2-1 ADA battalion and the 178th Direct Support Maintenance Company to Al Jaber Airbase, Kuwait. The purpose of the deployment was to give the Patriot forces already in theater additional command and control and to establish an early entry footprint for the follow-on Patriot units that would likely deploy in the very near future. The 35th ADA brigade was also tasked with deploying one Patriot battery to Arifjan, Kuwait. The 32d AAMDC tasked the 11th ADA brigade to prepare a defense design for Kuwait, including the assets deployed by the 35th ADA brigade, to support future operations. This would later be used as the foundation for TAMDC coverage in Kuwait when the rest of 11th ADA brigade deployed to Kuwait in January and February 2003.

Home Station Training

In October 2002 the 32d AAMDC conducted a simulation support exercise called POINTED ARROW at Ft. Bliss, Texas. Both the 35th and 11th ADA brigades took part in this exercise. This was the first time that the 32d AAMDC exercised command and control over more than one brigade. The exercise generated questions about early warning of short-range TBM's. As a result of this exercise, BG Bromberg directed coordination with the Joint National Integration Center (JNIC) to conduct additional simulations. These simulations suggested several radar platforms that could detect the launch of short-range TBM's and give the force adequate early warning. Based on the results of these simulations, the 32d AAMDC initiated requests for these assets to be part of any planned operations in the CENTCOM AOR. After coordinating with both the CFLCC and CFACC, a message was sent to CENTCOM and the JCS requesting the deployment of an AEGIS class cruiser and other national asset radar platforms to the CENTCOM AOR. The request was approved, and the importance of this decision would not truly be understood until hostilities began.



Reservists from the 90th RSC tie down Patriot equipment for rail movement to seaport.

1-3 ADA (3ID), 2-44 ADA (101st AA) and 1-44 ADA (4ID) all began immediate training programs focused almost exclusively on combat skills both at the crew and individual levels. Gunneries were conducted as were individual survival skills, training on NBC, weapons, and first aid. 1-3 ADA conducted a battalion-level live fire for all service ammunition in the October-November 2002 timeframe.

Exercise LUCKY WARRIOR I

On November 15, 2002, the advance party of the 32d AAMDC headquarters, consisting of 16 personnel, arrived in Kuwait. Additional personnel soon joined them on November 2002. These soldiers were primarily drawn from G3 Force Operations, G3 Plans, G1, G4, G6 and a small element from G2. The G3 Attack Operations and a G2 cell deployed to Prince Sultan Airbase in Saudi Arabia. When the advanced party arrived in theater it came under the Operational Control (OPCON) of CFLCC and was Tactical Control (TACON) to CFACC for engagement authority. Although the initial mission of the advance party may have been to prepare for Lucky Warrior I and Internal Look 03 exercises, ongoing planning and coordination activities in support of potential combat operations quickly became the main focus of their efforts. During this period of time, the ongoing coordination efforts included the synchronization of the air defense plan with the Commander CFLCC's planned scheme of maneuver, integration of command and control requirements within the theater signal architecture, the refined prioritization of force flow and the movement plan for over all the PATRIOT missiles throughout the AOR.

From November 17 through November 27, 2002 the 32d AAMDC participated in LUCKY WARRIOR I. LUCKY WARRIOR I was an exercise sponsored by the Coalition Forces Land Component Command and was designed to fight, in real time, the first days of combat operations with Iraq. The 32d AAMDC's objectives for the exercise are shown below.

- Develop proficiency in AAMDC current operations and battle staff drills.
- Refine the 32d AAMDC commander's critical information requirements (CCIR).
- Exercise battle drill reporting.
- Exercise early warning systems such as WOTS, AMDWS and ADSI.
- Define Weapons Control States (WCS) and SAM/SHORAD Tactical Order (SSTO) changes.
- Develop an efficient and effective TAMD situation report (SITREP).
- Acquire and communicate operational level information and maintenance status.
- Conduct tactical early warning and attack assessment, and provide operational protection.

The 32d AAMDC's mission in this exercise was to conduct TAMD operations to defend U.S. Central Command critical assets and deter or defeat Iraqi TBM or

air attacks. The exercise served as a CFLCC rehearsal of the land component battle plan prior to the comprehensive CENTCOM INTERNAL LOOK 03 exercise. Soon after LUCKY WARRIOR I, the air and missile defense workstations finally arrived and working cells in the TOC took shape. Those systems included ADSI, C2PC, DWS and GALE. 32nd AAMDC integrated key personnel into the CFLCC C3 ADA cell led by LTC Gilbert in the CFLCC Command Operations Center to form a current operations/passive defense cell. At the same time, the 32d AAMDC Command Post was the home of the Force Operations, Admin/Logistics, G2, and G3 Plans. Real-time functions were executed at the CFLCC Command Post, and near-real time functions such as logistics and plans took shape in the Force Operations cell. Thirty-percent of the staff was later sent to Prince Sultan Air Base, the home of the Combined Air Operations Center. Colonel Carney, the director of the detachment, focused the group's energy on attack operations, targeting, and the management of the Patriot Alert States. This cell was aptly named Engagement Operations. All three cells, Current Operations, Force Operations, and

Engagement Operations were connected digitally through AMDWS, ADSI, AC10, C2PC and Microsoft CHAT.

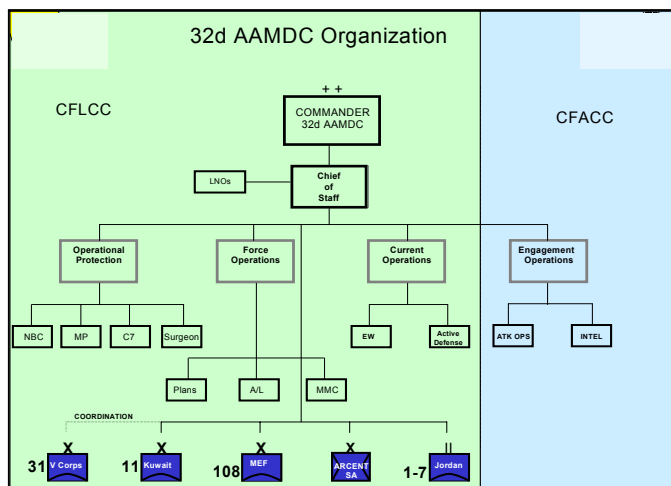
INTERNAL LOOK 03 began with a rock drill held from December 7, 2002 through December 8, 2002. The exercise was designed to be a component level battle staff training event to rehearse tasks required to support OPLAN 1003V. The exercise followed a five-phase training plan that culminated in a CPX rehearsal. One of the main lessons learned from the exercise was that the 32d AAMDC seemed to function better utilizing the standard G-staff model than by separate TAMDC operational elements. As a result, BG Bromberg made the decision to reorganize the HQs into a traditional G-staff, using the four operational elements of JTAMD as principles rather than as a means of structuring the staff itself.

In general, the entire series of exercises from June 2002 until the start of hostilities played a key role in the success of the 32d AAMDC and JTAMD during OIF. The Command and all supporting air defense units used these exercises as opportunities to hone their skills and develop TTPs for executing their respective air defense missions more efficiently and more effectively.

“We successfully built upon each exercise. For example, the tasks we used in exercise MILLENNIUM CHALLENGE had shown us better ways to do collaboration, better ways to use technology, and better ways to set our TOC up. And, in fact, that led in great part to us deploying the FOC TOC up here into Kuwait to enable us to have a permanent command HQs.” – BG Howard B. Bromberg, CG, 32d AAMDC

The First Patriot Unit Deploys – Serial 165

In October 2002, CFLCC decided to assume control of Camp Arifjan in order to establish its theater support center. This critical logistics hub with its large troop concentration necessitated TAMDC protection. As a result, it was added to the list of defended assets and was provided protection by the very first Patriot battery, C/2-1 ADA, deployed to Kuwait as part of Serial 165. With the arrival of Serial 165 to the CENTCOM AOR in late November 2002, U.S. Patriot forces grew to 700 soldiers in theater. Serial 165 also brought the battalion headquarters and direct support maintenance company from 2-1 ADA to Al Jaber for additional command and control in Kuwait. Once this battalion headquarters arrived, Patriot force strength rose to 927 soldiers.



Setting the Task Organization

In mid-January 2003, the entire early warning system was successfully tested from simulated launch through impact. This included the Kuwaiti early warning sirens and the U.S. “Giant Voice” system. The early warning system was functional at Camp Doha by the time the headquarters was fully deployed and Detachment 1 soldiers from the Florida Army National Guard arrived, on 3 February. As the early warning network took shape, the 32d AAMDC commander, BG Bromberg saw the need for air defense advisors and liaisons to be attached to a joint and coalition forces. In addition to calling out for worldwide augmentation, eleven members of Detachment 1, 2/200 ADA, New Mexico Army National Guard were mobilized and deployed to support this requirement. These soldiers acted as Liaison Officers (LNOs) and Air Defense Artillery Fire Control Officers (ADAFCOs) for the 32d AAMDC. Their duties included procedural control of Patriot Area of Responsibility assets. They also deconflicted and resolved TAMDM issues between different headquarters, monitored engagements of TBMs, and ensured all engagements were reported as per SOP. LNOs and ADAFCOs were generally attached to U.S. Air Force and Marine units as well as coalition forces and acted as a channel for 32d G3 Operations section to verify significant events such as launches and engagements. The 32d AAMDC headquarters reached its peak strength of 213 soldiers by 8 March 2003.



Brigadier General Bromberg addresses the Brigade commanders and key staff at the key leader conference held January 4, 2003—January 5, 2003.

Following the conclusion of INTERNAL LOOK 03, the 32d AAMDC hosted a key leader conference at its forward TOC at Camp Doha, Kuwait. The commanders of the 11th, 31st and 108th ADA brigades (COL Tim Glaeser, COL Heidi Brown and COL John Seward respectively) and their battalion operations officers flew in from Fort Bliss, Texas, for this conference. Conference participants discussed the many lessons learned during LUCKY WARRIOR I and INTERNAL LOOK 03 to refine tactics, training and procedures for the upcoming deployment of Patriot Forces and follow-on operations. The conference also addressed the CENTCOM and CFLCC critical asset lists and refined the defended asset list.

Command and control would be an enormous task for the 32d AAMDC planners. Patriot units were literally going to be all over the battlefield. The 32d AAMDC had the daunting task of command and control of all these assets spread throughout the area of operations including the countries of Jordan, Israel, Saudi Arabia, Qatar, Bahrain, and Turkey. The fact that a large number of air defense units would move whenever the maneuver forces attacked north further complicated matters. In the end, the phrase of the day was “adapt and overcome.” The 32d AAMDC would do just that as it maintained command and control of all of its assets during all phases of the battle. Both V Corps and I MEF were slated to have Patriot assets task organized to them. The 108th ADA brigade supported I MEF, while the 31st ADA brigade supported V Corps. Finally, the 11th ADA brigade, who would perform the brunt of the EAC air defense mission, remained in Kuwait.

DEPLOYMENT TO THEATER, January 2003 – 20 March 2003

Balancing the Strategic and Tactical Stance

Integration at the command level involved a continuation of the earlier pre and post-deployment planning process with a greater focus on exercises to test integration of the entire TAMD architecture. As the buildup of forces began, an air defense synchronization conference was held from January 29, 2003 through February 1, 2003. The purpose of this conference was to put the Joint Area Air Defense plan in final form. The conference brought all the major component TAMD representatives together and allowed early warning, communication and battle staff procedures to be further refined. In addition, the conference allowed for cross-talk among all the air defense brigade and battalion commanders at one time, which was necessary due to continuing changes to the war plan and TPFDDL. On the same day the conference concluded, the 11th ADA brigade assumed OPCON of 2-1 ADA. Shortly thereafter, on 4 February 4 2003, 11th ADA brigade was tasked with defending V Corps assets while these forces went through the RSOI process, and until 31st ADA brigade deployed. On February 17, 2003, the 32d AAMDC issued OPLAN Cobra II Blackjack. This plan set forth the TAMD strategy in support of CENTCOM's OPLAN 1003V and CFLCC's OPLAN COBRA II for combat operations against the regime of Saddam Hussein. After the 32d AAMDC published OPLAN Cobra II Blackjack, each subordinate command went to work preparing their own operations plans to meet the guidance set forth in Cobra II Blackjack. From February 26-February 27, 2003, BG Bromberg conducted comprehensive back briefs of the plan with his subordinate commanders. This process led to further refinements of the plan.

“The changing plans made cross-talk among the air defense brigade commanders absolutely critical” – BG Howard B. Bromberg, CG, 32d AAMDC



LTC Mantiplay, G3
Plans, 32d
AAMDC.

“The strategic stance was the other critical part. Patriot as I kind of see it was the key to unlock the door to many of these countries, and so you are fixed on having to provide Patriot not necessarily from a threat or criticality aspect of putting Patriot, but purely for a political reason you have to go and posture Patriot in a country early on in order to allow that country to accept other forces flowing in; so we set our strategic stance before we ever achieved the Operational and tactical stance in theater. We took a lot of risk initially with the operational and tactical

piece.” – LTC Mantiplay, G3 Plans, 32d AAMDC

“We spent all our time focusing on “stance,” starting with the pre-deployment phase and continuing through the deployment phase...on how to achieve the best possible stance.” – BG Howard B. Bromberg, CG, 32d AAMDC

The specific mission of the 32d AAMDC and the Patriot forces in the theater was to provide TAMD for CENTCOM's critical assets and to defeat Iraq's theater ballistic missile and air threat. For the Patriot

force this meant that the war started as soon as they hit the ground. It was essential that all units deploying into theater quickly become mission capable in order to provide protection to the forces massing throughout the theater and undergoing the RSOI process in preparation for combat operations. Protecting these forces and insuring the continued flow of personnel and material into theater was critical to the success of all future combat operations. OPLAN Cobra II Blackjack was structured into four phases to coincide with the four phases of COBRA II, the CFLCC plan for Operation IRAQI FREEDOM.



KEY LEADERS– Front Row starting at left: COL Charles Anderson, Chief of Staff 32d AAMDC; COL Tim Glaeser, CDR 11th ADA BRIGADE; BG Howard Bromberg, CG 32d AAMDC; COL Heidi Brown, CDR 31st ADA BRIGADE; COL John Seward, CDR 108th ADA BRIGADE; LTC Mark Garrell, CDR 1-3 ADA; Back Row starting at left: CSM Sidney Weatherspoon, 2-1 ADA; CSM Bobby Brown, 11th ADA BRIGADE; CSM Julio Torres, 108th ADA BRIGADE; LTC Joseph Deantona, CDR 2-1 ADA; LTC Joseph Fischetti, CDR 5-52 ADA BRIGADE; CSM William Sotomayor, 32d AAMDC CSM.

The plan presumed that the Iraqi dictator's most likely course of action would be to keep his Al Hussein missiles and chemical weapons hidden until he knew his regime was directly threatened. At that point, it was expected he would seek to destabilize the region by launching limited missile volleys at Israel from the Western desert of Iraq. It was also suspected that forces loyal to the regime would launch shorter range Al Samoud and Ababil-100 missiles at Kuwait in order to disrupt the RSOI process. Likely targets for these missiles were

identified as Kuwait City, Camp Doha, the APOD, the SPOD and various camps and tactical assembly areas in Northern Kuwait.

Exercise LUCKY WARRIOR II

- Conduct mission rehearsal for combat operations.
- Synchronize execution of CFLCC's Cobra II OPLAN.
- Train future operations/plans, force operations and current operations sections.
- Integrate new personnel into the 32d AAMDC staff and operational procedures.
- Ensure the Kuwaitis were allocated a major operational role in the plan.

The next exercise was LUCKY WARRIOR II, a CFLCC training event, held between 8-12 February 2003. The mission of the 32d AAMDC and its subordinate units

during this exercise was to prepare their battle staffs for the execution of combat operations. The exercise was a real-time rehearsal of the first days of Phase III operations. The exercise was designed to continue the process begun with LUCKY WARRIOR I and INTERNAL LOOK 03. A contractor lead white cell operated from Suffolk, Virginia and replicated the subordinate Patriot units and reporting procedures while simulating the TBM launches in order to meet unit training objectives. LUCKY WARRIOR II demonstrated the feasibility of the CFLCC's Cobra II OPLAN and the Kuwaitis' role in it.

Directly following this exercise, in final preparation for combat operations, 32d AAMDC conducted a series of rock drills. On February 15, 2003 and March 16, 2003, the 32d AAMDC G1 sponsored rock drills to discuss: strength management and reporting, casualty operation, replacement operations, command policies and award guidance. On 21 February, and again on 28 February 2003, logistics, communications and NBC rock drills were held to exercise the plans for supplying repair parts and all

other classes of supply during combat operations, continuing communication as the forces maneuvered, and NBC warning and reporting procedures. On 28th February 2003, 32nd AAMDC conducted its rock drill with the key leadership from all the air defense brigades and forward deployed SHORAD battalions. The purpose was the synchronization of the TAMDC forces within the CFLCC/CFACC plans and identification of any final issues to be resolved during the final days prior to initiation of combat operations. On March 2, 2003, another command rock drill was held to go over critical aspects of the maneuver plans specifically for 31st and 108th ADA brigades. On March 10, 2003 Blackjack Warrior, a command post exercise, began. The purpose of the exercise was to execute the lessons learned LUCKY WARRIOR II. The preparations culminated with a final commander's huddle on March 17, 2003.

“Our first task was to participate in Combined Forces Land Component Command (CFLCC) Exercise LUCKY WARRIOR, a CFLCC-level exercise designed to test CFLCC procedures, which were designed and computer-simulated by V Corps staff. The exercise enabled us to work the battle plan one last time while co-located with the Corps HQs but carrying out the brigade mission. LUCKY WARRIOR II was based on the 3rd Infantry Division (3ID) plan, which drove the Corps plan. The exercise was a good opportunity to link up with the CADE staff as well as 32d AAMDC and 3ID.” - MAJ

Nick Gee, Assistant Brigade S-3, 31st ADA Brigade



HHB 32d AAMDC soldiers react to the “Giant Voice” during a SCUD drill at Camp Doha.

32d AAMDC Picks Up the Operational Protection Mission for CFLCC



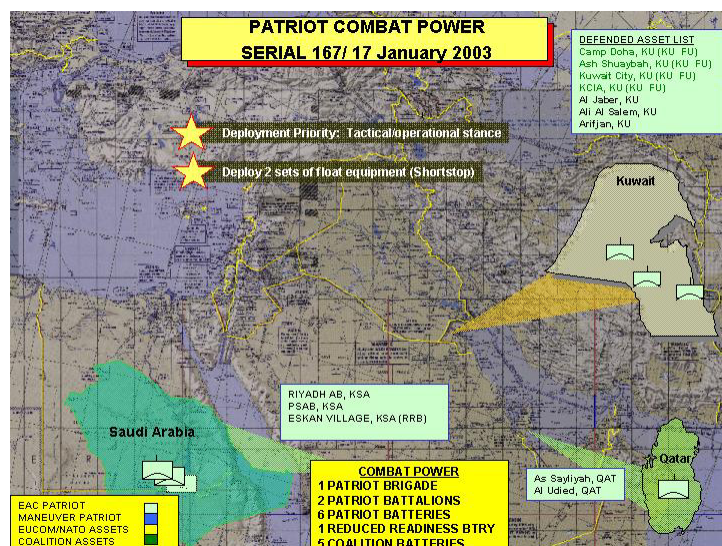
The 32d AAMDC Tactical Operations Center.

Early in the deployment cycle, while final planning for execution of 1003V was being conducted, it became apparent to the 32d AAMDC that they would be assigned a separate and distinct mission by the CFLCC. During CENTCOM and CFLCC exercises INTERNAL LOOK and LUCKY WARRIOR I and II, the CFLCC staff realized they needed someone in charge of synchronizing operational protection within theater and assigned this mission to the 32d AAMDC. Upon 32d AAMDC's arrival in theater, it was apparent the CFLCC was aligning the traditional staff in accordance to the operations functions of operational fires, movement, sustainment, and protection. At the onset most questions were geared to alert warning for TBMs and

the recon and decon in the event of a chemical attack. The concern was a preemptive attack on the port or airport delaying the RSOI process and perhaps catastrophic loss or and environmental disaster from a TBM hitting the chlorine plant or industrial plant by the port. The linkage between NBC and ADA became apparent and each node we protected required a security force; hence the inclusion of the PMO. All three became operational protection under the C2 of the operational protection czar, BG Bromberg. As a result, the command formed an operational protection board consisting of the C7, CMO, C3, PMO,

NBC and C2X. The board made decisions on the allocation of combat power and sent out teams, which conducted High Value Asset (HVA) vulnerability assessments. These assessments were then used in the development of the high value asset list in the CFLCC rear area and an assessment of vulnerability from a NBC, TBM, or terrorist threat.

The Common Operating Picture (COP) for Operational Protection set the standard for the CFLCC battle update brief, and the 32d AAMDC was on its way to showing the COMCFLCC the risk at all the HVAs in the CFLCC rear area on a daily basis. Soon after the team of military police, air defense and NBC personnel assessed the first sites to be RED (High Risk), the emphasis on force protection elevated and resourcing for Giant Voice, bunkers, and NBC detection and security inspection devices became a priority. Leaders soon were held accountable for SCUD drills and the security of their camps, and soft targets such as the port and airport were routinely inspected. The operational protection function went to a new level with the arrival of Colonel Dave Treuting (MP) and Colonel Glenn Eddins (NBC). Soon COL Treuting increased the size and capability of the operational protection staff and the Vulnerability Assessment Teams escalated in number.



The Build-up of JTMAD Forces Continues

The deliberate build-up of Patriot forces was initiated in mid-January 2003 and continued until it reached its peak of 7,198 soldiers on April 24, 2003. The deployment of serial 167 brought an additional Patriot battery, D/3-43 ADA, to protect the CFACC's alternate CAOC in Al Udied Airbase, and the CENTCOM forward headquarters in As Sayliyah, Qatar. Additionally, one of the reduced readiness batteries (RRBs), C/3-43 ADA, at PSAB was activated and manned by personnel from D/3-43 ADA. Total strength was 1004 soldiers, including security forces personnel. In addition, ARCENT-Saudi Arabia, which was in charge of Patriot SWA rotational forces, became a standing air defense brigade headquarters and was placed TACON to the 32d AAMDC for air defense.

Beginning on 5 February, members of the 31st ADA brigade staff deployed forward to ensure that the brigade's interests in theater were articulated to higher, and to participate in LUCKY WARRIOR II. While the brigade did not participate in LUCKY WARRIOR I, its participation in this exercise was critical to solidify the brigade's integration into V Corps while ensuring connectivity with 32d AAMDC. After many months of waiting, working and preparing the brigade for deployment to Kuwait and subsequently into Iraq in support of operations in Southwest Asia, the ADVON team departed Fort Bliss and Germany during the first week of February 2003. The remainder of 31st ADA brigade landed at the Aerial Port of Debarkation (APOD) in Kuwait City, Kuwait at 2000Z on 22 February 2003. The Charlton, the ship carrying 31st ADA brigade equipment, arrived at the port of Ash Shuaybah on 6

March. On 8 March, when the vessel was ready to disgorge her cargo, HHB took 80 soldiers down to the port and began to convoy their vehicles to Camp VIRGINIA. Dust storms prevented the group from taking all its equipment from the port to Camp VIRGINIA in one day. As the brigade's units began to arrive, blowing sand and degraded visibility greeted them at Camp VIRGINIA, and on at least one occasion, halted operations for an entire 24-hour period. The softness of the sand, combined with the heavy vehicles that Patriot units require, namely the Heavy Expanded Mobile Tactical Trucks (HEMMTs), caused numerous vehicles to become stuck. The sandstorms and the temperature fluctuations were the most significant weather issues that faced all soldiers at Camp VIRGINIA. The mornings and evenings were quite cool, necessitating the soldiers' use of cold-weather gear, to the surprise of many. The daylight hours brought ever-increasing periods of heat.

The 108th ADA brigade received its WARNO on or about 22 December 2002, and received the actual EXORD on 28 December 2002. The brigade was only 20-percent strength at this time due to the holiday leave schedule and only had about one and half weeks to move the entire brigade. However, the brigade had already been planning and preparing for an upcoming ODS Patriot SWA rotation for 2-43 ADA, which was to commence in March 2003, so the preparations for a potential SWA operation in support of the I MEF was really a FRAG off of their normal SWA rotation planning. As such, the brigade had already prepared for rail movement of the 2-43 ADA Patriot battalion, and once they received the EXORD for OIF deployment, the brigade merely adjusted to meet the shorter timelines.

The 108th ADA brigade staff began its involvement on the ground in Kuwait when the S-3 and the S-2 arrived at Camp Doha, Kuwait on 27 December 2002. They began coordinating with 32d AAMDC and I MEF to develop the brigade's integration in future combat operations. COL Seward and the brigade signal officer arrived in theater on 3 January 2003 to participate in the first of many rock drills conducted by 32d AAMDC. On 5 January 2003, CW2 Martinez and MSG Woods arrived in theater to begin laying the logistical framework for operations. The brigade commander and S-3 returned to Fort Bliss on 6 January. The brigade received a deployment order stating that they would deploy and provide direct support to the Marine Expeditionary Force. 2-43 ADA battalion recalled its soldiers from holiday leave in order to begin preparing for deployment. The staff conducted operations out of Camp Doha until the middle of January 2003. MAJ Crosby then remained at Camp Doha as the OIC of the Advance Party. He would continue to coordinate with I MEF and III MAF in order to usher in the main body of the brigade.

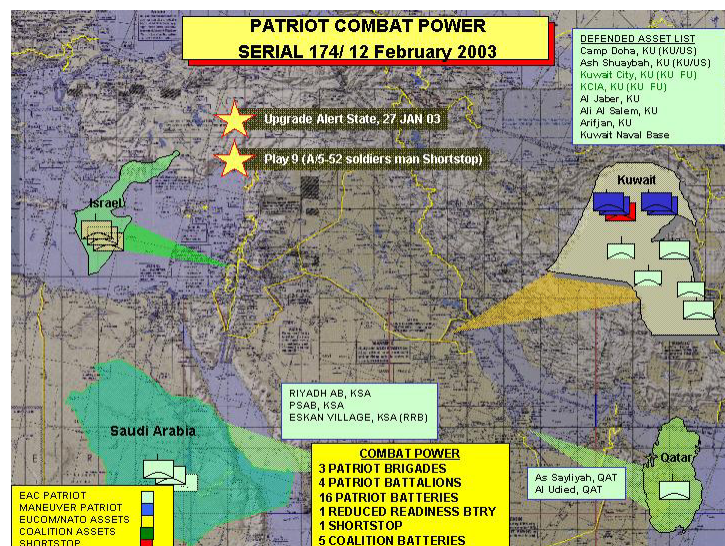
The 108th ADA Brigade Advance Party moved to Al Jaber Airbase.

“The rail load went extremely smooth, well over 400 pieces of equipment, in less than 96 hours, no safety incidents. That's a tribute to the soldiers; they were focused on the mission; they knew they were called to do it; and they made it happen. They were able to rise to the challenge. That built momentum for everything we were going to do following on. They got the equipment on the ship, they knew, hey we can do this, and that just built that confidence. And everything they did after that just continued to build momentum, and I think that helped us in running the combat operations because they were confident that they were trained and ready, and I think that attributed the great success we had in combat operations.” – MAJ Tronolone, Battalion XO, 2-43 ADA, 108th ADA Brigade

1-3 ADA had one battery, C/1-3 ADA, that had just returned from a CCRF rotation in SWA in support of Operation Intrinsic Action. The battalion received its actual deployment orders for OIF in early January 2003. The advance party closed in theater on 15 January 2003 and remainder of the battalion arrived the first week in February 2003. B/1-3 ADA was already in theater as part the CCRF with a Sentinel section and medics. C/1-3 ADA returned to theater on 7 January 2003 with 3BCT (3ID). The battalion commander and CSM arrived about 15 January 2003. A/1-3 ADA deployed with 1BCT and HHB and D/1-3 ADA followed in late January 2003 and early February 2003. The battalion drew about 100 pieces of equipment from APS, but the majority came from home station, about 250 items total.

Next to arrive were the units of serial 174 on 12 February 2003. The serial brought in the initial tactical Patriot forces into Kuwait and enhanced the strategic stance with the addition of two Patriot batteries providing coverage to Camp Doha, by E/2-43 ADA, and the Kuwait Naval Base, by A/2-1 ADA. On 13 February 2003, the ships carrying the equipment of 2-43 ADA and HHB/108th ADA brigade arrived at the SPOD. Units sent representatives to the port to pick up the equipment, after which 2-43 ADA emplaced at Camp COYOTE in order to begin providing TBM protection to I MEF assets in their staging areas. B/2-43 ADA arrived in theater on 22 February and remained with HHB/2-43 ADA at Camp COYOTE. C/2-43 ADA picked up its equipment on 25 February. B/2-43 ADA did not receive its Patriot equipment until 6 March in the form of float equipment bestowed by 32d AAMDC. The early arrival of personnel into the AOR in conjunction with existing float equipment provided an additional minimum engagement Patriot capability in theater, which was termed “shortstop.” The shortstop equipment, manned by A/5-52 ADA, was deployed to protect aircraft staged at the Udari range in Kuwait. In addition, with the arrival of elements of 108th ADA brigade, the deployment represented the initial deployment of Patriot forces that would later support the maneuver forces during combat operations in Iraq. At the same time that serial 174 deployed to CENTCOM’s AOR, EUCOM assets deployed to Israel for exercise Juniper Cobra. These forces remained under EUCOM command and control and would remain in Israel during the conduct of Operation IRAQI FREEDOM in support of OPLAN 4305. With this deployment, total U.S. Patriot forces stood at 17 batteries.

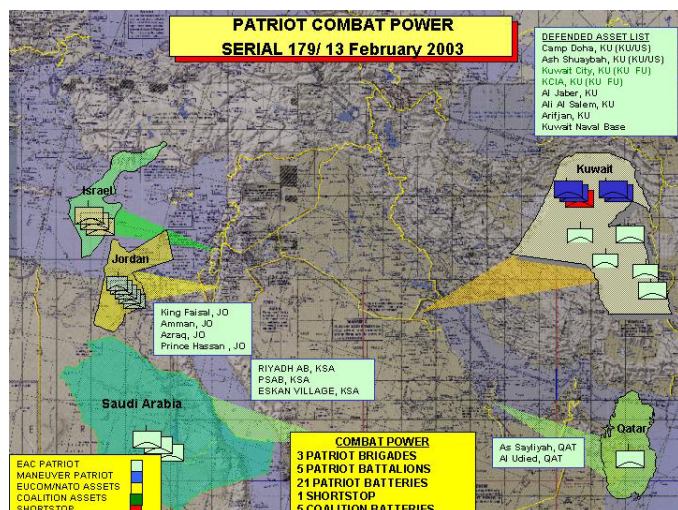
On 13 February 2003, under Serial 179, 1-7 ADA successfully deployed five fire units (MEPs), a



headquarters element and a maintenance company into Jordan. This deployment, which occurred over a five day period, would be the largest airlift operation of PATRIOT in history. The addition of this serial raised the number of U.S. Patriot batteries in CENTCOM’s AOR to 21. On 25 January 2003, 1-7 ADA had received a FORSCOM deployment order for its units. The order instructed the battalion to utilize rail/sea resources to the utmost, with arrival in theater dated between 3-8 February 2003. Upon receiving the order, the battalion began 24-hour operations and opened its Emergency Operation Center (EOC).

All 1-7 ADA units began Marshalling, Preparation, Assembly (MPA) operations to prepare all required equipment for deployment. Unit Movement Officers (UMOs) completed air and rail load plans, which had to be conducted simultaneously in order to be in theater in time. The battalion completed rail load

operations on 2 February 2003. Each battery deployed with 2 to 4 Patriot missiles. Two types of aircraft, the C-5 and C-17, were used to transport equipment and personnel via strategic airlift. The first of 36 chalks left on 3 February 2003, with the last chalk arriving in Jordan on 13 February 2003. The equipment transported via rail and sea arrived at the Port of Aqaba on 17 March 2003. The mission given to the battalion was to provide theater air and missile defense for four assets listed on the CENTCOM critical asset list (CAL) in Jordan to include: Amman (C and E/1-7 ADA), Prince Hasan Air Base (B/1-7 ADA), King Faisal Air Base (KFAB) (D/1-7 ADA), and Al Azraq Air Base (A/1-7 ADA).



Force protection assets in Jordan were extremely limited when the battalion arrived, especially at the individual Patriot sites located off of the air bases and in the city of Amman. Initially, the fire units and headquarters had to provide dozens of soldiers to provide perimeter defense. On 6 March 2003, C/1-124 Infantry of the Florida Army National Guard arrived to provide all required site defense for the tactical sites. Nuclear, Biological, and Chemical (NBC) defense also provided challenges. There were limited NBC assets in Jordan when TF 1-7 ADA arrived. At Prince Hassan Airbase, the entire base NBC defense had to be constructed, and all the fire units had to develop their own defense plans. All necessary NBC early warning and defense equipment was in place prior to decisive combat operations. Logistics Packages (LOGPACs) were the main medium for the dissemination of supplies and paperwork throughout the battalion. The battalion received repair parts from the United States via a supply route that ran through 32d AAMDC in Kuwait. Units established food and water resupply through the use of civilian contracts in Amman and the local air bases for the rest of the units. In early March 2003, 1-7 ADA received 65 additional missiles, which were distributed according to defended asset priority. All units received a combination of GEM and PAC-2 missiles. The units in Amman, the highest priority asset, received several GEM+ missiles as well. These logistical networks continued to operate during all phases of the operation.



Patriot Radar being airlifted in support of OIF.

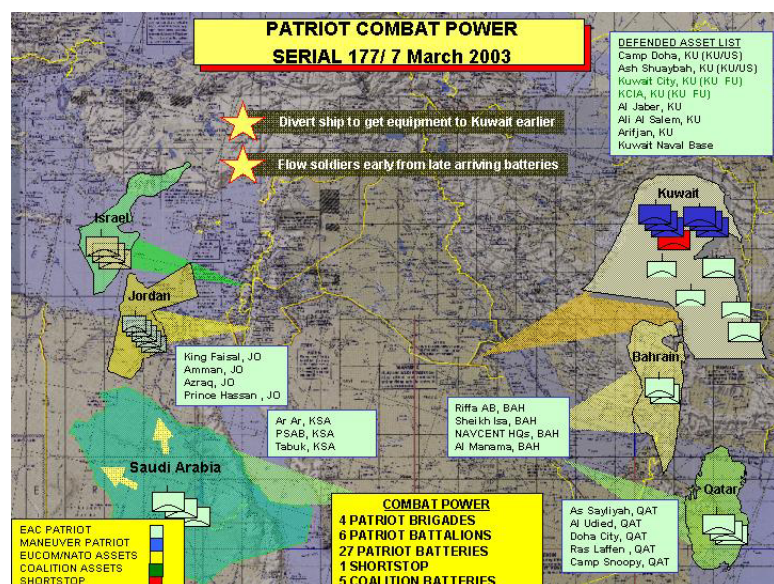
During this same time period, B/3-43 ADA, an RRB battery from the 11th ADA brigade, was activated in Saudi Arabia and ordered deployed to provide protection of Eskan Village, Saudi Arabia. 32d

AAMDC assumed operational control (OPCON) over 1-7 ADA in Jordan and 108th ADA brigade in Kuwait.

Serial 177 set the desired TAMDC Strategic and Tactical Stance for initiation of combat operations by deploying strategic assets to Bahrain and Qatar, and bringing in additional tactical assets for V Corps and I MEF, including an additional EAC ADA brigade headquarters, Corps ADA brigade headquarters and 5-52 ADA battalion headquarters. The deployment of serial 177 raised the total number of Patriot batteries by six to 27 total and personnel to over 5,000. Five new assets were covered with these units: Ras Laffen, Qatar by E/3-43 ADA; Doha City, Qatar by C/3-2 ADA; Riffa airbase, Bahrain by B/1-1 ADA ; Sheikh Isa, Bahrain also by B/1-1 ADA; and the Navy Central Command headquarters in Bahrain by A/1-1 ADA. Also deployed with this serial was an additional two sets of float equipment, which provided the capability to stand up two additional shortstop packages. Finally, when CFACC was able to obtain additional basing in Saudi Arabia, changes to the defended asset list moved Patriot batteries, A/3-43 and B/3-43, from Eskan and Riyadh to Ar Ar and Tabuk.



1-7 ADA providing protection for a palace in Amman, Jordan.



C/6-52 ADA, the first of the batteries from 6-52 ADA battalion to arrive in country, joined the 31st ADA brigade at Camp VIRGINIA on Wednesday, 12 March. Bravo and Echo batteries, along with the 549th Maintenance Company, all from 6-52 ADA, arrived at Camp VIRGINIA on 13 March 2003. To get to that point, weeks earlier, 6-52 ADA had moved their equipment to Spinelli Barracks at Mannheim, Germany, where it was driven to the nearby port of Antwerp, then sailed to Kuwait. 6-52 ADA headquarters soldiers traveled by bus to Ramstein Air Force Base near Kaiserslautern, Germany, flew to Camp Doha, inprocessed at Camp

WOLF and were then staged at Camp VIRGINIA. The 549th Maintenance Company first pushed the other units out, then themselves. Nonetheless, because of the 6-52 ADA's late DEPOD, their soldiers did not get the requisite supplies provided to other units who deployed earlier. For example, upon their initial arrival at Camp VIRGINIA, they were outfitted in Battle Dress Uniforms (BDU's), instead of the Desert Camouflage Uniforms (DCU's) worn by most other soldiers in the theater of operations. 6-52 ADA had safely moved 600-plus soldiers in their formation without incident and without substantial support from a higher headquarters.

The third week of January 2003, 2-44 ADA (101 AA) received orders to band all their equipment again. In early February 2003, the actual rail load operations began for the 3BCT. Around 27-28 February 2003, 2-44 personnel began arriving to theater, and equipment arrived between 8-20 March 2003 on several ships. Elements of the battalion were located at Camp NEW JERSEY as well as the 2-44 ADA battalion TOC.

An Emerging Threat and the Attack Operations Response

Members of the 32d AAMDC quickly integrated with three Air Force operational teams. The Strategy Team included the long-range planning of air operations, developed, and assessed progress. The Guidance, Apportionment and Targeting Team (GATT) integrated CFACC's prioritized tasks from the strategy division, developed guidance and target recommendations, and nominated targets for the Joint Integrated prioritized Target List (JIPTL). The Master Air Attack Plan Team (MAAP) produced a time sequenced daily air battle plan. 32d AAMDC Attack Operations (AO) was an important player in counter-Theater Ballistic Missile (C-TBM) operations. The Attack Operations mission was to disrupt and delay TBM launch activity and destroy TBM storage facilities. Attack Operations provided both pre-planned and time sensitive targeting support to the Coalition Forces Air Component Commander. Attack Operations also coordinated the attack of TBM targets in the Coalition Forces Land Component Commander (CFLCC) area of responsibility through the Deep Operations Coordination Cell (DOCC). A great deal of the unprecedented success of the counter-TBM fight was due to Attack Operations' aggressive, hands on involvement in the targeting processes.

SGM Seibel trained one enlisted soldier for each shift to assist him with the entering of targets into the joint collection process or PRISM system and provided a 24-hour interface with the CENTAF collection management cell. Having dedicated collection personnel in the cell proved to be one of the most effective measures taken by the TBM team. Their proactive efforts resulted in the G2, 32d AAMDC leading the theater collection effort with an average allocation of 65-percent of the national collection decks of which approximately 25-percent were actually collected. In addition, the TBM cell received about 40-percent of the theater collection deck averaging 200 daily targets. This figure includes approximately 70-percent of the decks for counter-TBM. As a result, 30 of the 61 theater TSTs against related TBM equipment were the direct result of the counter TBM team's analysis and collection efforts of the 32d AAMDC.

During the RSOI process, the real world threat continued to grow. In January 2003, the command's G2 section had developed a list of threat indicators for a preemptive strike by Iraq. These indicators were utilized to direct higher alert states for TMD forces. When RSOI began in earnest at the beginning of February 2003, the G2 section assessed that several threat indicators monitored by the command were active. On February 11, 2003 another indicator was moved into the active column in response to Iraq moving three Ababil-100 trailer erector launchers (TEL's) into southern Iraq several days earlier. These TEL's were deployed to the area in and around the city of Basrah in southern Iraq, south of the 32d parallel. The movement of these TBM's into range of Kuwait significantly raised the threat to coalition forces assembling in Kuwait. Two were sighted to the Northwest of Bashra and one to the Southwest. As a direct result of this enemy action, 32nd AAMDC recommended to COMCFLCC a raise in the Mission Oriented Protection Posture (MOPP) to level 0; protective masks were now with soldiers at all times. Additionally, this threat prompted CENTCOM to order a Response Option (RO) against these systems, but weather and no targetable data hampered any effort to allow predator and coalition planes

to perform the mission. At 1600Z, the response finally came with two U.S. F-16s and two British Tornados attacking the site. This may, in fact, have been the first-ever successful air raid on mobile erector launchers. The RO's were successful in destroying or damaging the systems. The destruction of these TELs was instrumental in disrupting Sadaam's operational plan for employment of his missile systems. In response, Iraqi forces moved their launchers and missiles into developed urban areas and under cover to deter further attack.

On February 14, 2003 the G2 section assessed that other threat indicators became active when U.N. Inspectors confirmed that the Al Samoud II ballistic missile exceeded the range allowed for such systems by U.N. resolutions passed following Operation DESERT STORM. This ruling by the U.N. demonstrated that Iraq possessed prohibited weaponry. On February 15, 2003, the G2 assessed that Iraq was reinforcing the Ababil-100's in Southern Iraq with extended range FROG-7's. The following day it was assessed that three Ababil-100 TELs near Basrah were destroyed in the earlier RO's. However it was assessed that three remained and that Iraq would likely reinforce those with extended range FROG-7's and Al Samoud II's. On February 16, 2003, an Iraqi MIG-25 violated the Southern no-fly zone. This provocative action was seen as an attempt to test the coalition's response and as a reconnaissance flight.

On 23 February 2003, the 11th ADA brigade S2 reported that coalition forces had located a FROG missile site in Iraq with decon units nearby, indicating the possible presence of chemical munitions on those launchers, of which one was destroyed and one damaged. On February 24, 2003 the G2 assessed that Iraq had again infiltrated six Ababil-100 TELs into Southern Iraq, near Basrah. It was believed that these movements were an attempt by Iraq to position their surface-to-surface missiles for a preemptive attack against Kuwait when it became clear that coalition forces were about to attack. Under this scenario, it was assessed that the bulk of Iraq's SSMs and Republican Guard would be held back in a defensive perimeter around Baghdad to provide a last line of defense. The G2 assessed that Iraqi forces would fight delaying tactics up to Baghdad and then try to involve the coalition in drawn out and costly urban combat. It was also believed that Iraq would not commit its military aircraft early on but would hold them for the defense of Baghdad and key infrastructure. Further assessments predicted these aircraft could be used to make suicide attacks on coalition forces in Kuwait with conventional or chemical weapons. Nonetheless, prior to the actual start of hostilities on 20 March 2003, coalition forces had destroyed numerous Iraqi TBM forces.

On 24 February 2003, additional threat indicators became active as coalition forces began to move out of base camps and into their tactical assembly areas. On 25 February 2003, tensions rose as an Iraqi MIG-25 again violated the southern no fly zone. This violation followed a course similar to that flown on 16 February 2003 but was much deeper and longer. There were even questions about whether the MIG-25 violated Saudi Arabian airspace. The G2 assessed the violation to be a reconnaissance flight sent out to test coalition reactions and to determine whether coalition forces were massing in the eastern deserts of Saudi Arabia for an attack into Iraq. These concerns may well have been prompted by reports of Patriot forces deploying to this area.

A unique operation focused on the ABT threat was the execution of SHORAD demonstrations in an effort to deter any asymmetric ABT threat. The 32d AAMDC executed a play called "Dirty Skies", where an Avenger Platoons and Stinger sections from 1-3 ADA (3ID) and later 1-44 ADA (101st AA) demonstrated in Kuwait. This plan called for a visual presence of Stinger gunners on roofs and Avengers outside of the gates of Camp Doha due to HUMINT reports of possible asymmetric attacks on KNB, KCIA, Camp Doha and Arifjan. 1-3 ADA placed Stinger gunners on rooftops and also conducted demonstrations outside of the secure areas with the Avenger weapon system. 1-44 ADA executed just the rooftop missions. Both of the missions occurred from February to early April 2003.

These concerns may well have been prompted by reports of Patriot forces deploying to this area.

Another no-fly zone violation occurred on 27 February 2003. This was believed to be a reconnaissance flight looking for coalition forces in northern Iraq. On 10 March 2003 more threat indicators became active. Specifically, it was acknowledged that there was more aggressive enforcement of the coalition's Operation Southern Watch, the U.N. weapons inspectors were being hindered and were likely to stop work as Iraq believed an attack was imminent. On 18 March 2003, G2 reported that the pilot who flew the MIG-25 into the southern no fly zone had defected to another country and reported that the morale of Iraqi pilots was very low. He also disclosed that the state of maintenance of Iraqi aircraft was very low.

Conclusion

Accelerating the fielding of PAC-3 and pre-positioning some of these forces in theater prior to hostilities proved to be critical to the success of JTAMD during the operation. Also critical for JTAMD success were the training exercises prior to hostilities conducted by both the CFLCC and CENTCOM. The two LUCKY WARRIOR exercises and the INTERNAL LOOK exercise allowed JTAMD forces to rehearse and refine unique C2 relationships and reporting procedures.

Joint and coalition warfare requires an enormous investment in liaison officers (LNOs). For example, the 32d AAMDC deployed LNOs to all major service component commands as well as coalition forces. One brigade in particular, 108th ADA brigade, had a requirement to provide LNOs at the I MEF TOC, TAC, TAOC, TACC, 1st Mar Div, III MAW, and 1st UK Division. This was a large requirement for a single brigade to support. In fact, 108th ADA brigade did not have enough personnel to fill all LNO positions and were unable to support the LNO requirements at 1st FSSG and TF TARAWA.

CHAPTER III - THE RUNNING START, 20-23 March, 2003

THE JTAMD STANCE AT LD

Tasks to the Brigades

With deployment operations still ongoing, CENTCOM initiated combat operations against Iraq. During the final days prior to commencement of offensive operations, the command continued to refine its stance ensuring that Patriot forces were ready to move with the maneuver elements of the V Corps and the I MEF in addition to protecting CENTCOM's critical assets. In PSAB, the attack operations cell focused on intelligence, surveillance and reconnaissance (ISR) to further refine offensive targeting operations for the future counter-missile campaign. The 32d AAMDC also worked to support information operations to deter the use of TBM by Iraqi forces.



BG Bromberg, CG 32d AAMDC, and COL Jasem Al Huwaitan, Cdr of 46th Kuwaiti Patriot Brigade.

As the brigade in charge of Echelon above Corps Patriot force in Kuwait, 11th ADA brigade was assigned the task of providing TAMDC coverage to U.S. Central Command critical assets in Kuwait, including Ali Al Salem (air base), Al Jaber (air base), Camp Doha (CFLCC headquarters), Arifjan (logistic base), Kuwait Naval Base, Ash Shuaybah Port (SPOD), and CFLCC critical assets at Tactical Assembly Area FOX, and Camp VIRGINIA. In addition, 11th ADA brigade was to assume TACON of Kuwaiti Patriot forces and to integrate those fire units into the EAC air and missile defense plan. As initiation of hostilities began, the 11th ADA brigade was prepared to shift coverage to critical assets in Iraq and to assume command and control of EAC air defense units in the event that the 32d

AAMDC headquarters moved forward into Iraq, until the 32d AAMDC reestablished C4I. However, for the 11th ADA brigade and the 32d AAMDC to accomplish this, they would need unfettered cooperation and assistance from their Kuwaiti coalition partners, which they received.

Prior to initiation of hostilities, missile availability was a significant challenge to the TAMDC defense design for the Kuwait Theater of Operation. Initially there were only 44 PAC-3 missiles available for the 3 deployed US Fire Units as well as 115 GEM missiles to be distributed among all U.S. units. The 11th ADA brigade staff recognized this problem months before the deployment of forces and conducted a thorough CVRT analysis to determine the proper missile mix by battalion. 32d AAMDC had assessed a higher threat to the maneuver forces than to the defense of the CFLCC rear; therefore fifty of the GEM Missiles were given to 31st ADA brigade and thirty-eight GEM Missiles were given to the 108th ADA brigade. Additionally, twelve PAC-3 missiles were given to 31st ADA brigade. This left the 11th ADA brigade with only twenty-seven GEM Missiles and thirty-two PAC-3 to be distributed among seven batteries and three remote launch sites. Based on the Enemy Order of Battle and the Threat's Most Likely Course of Action, the 11th ADA brigade immediately coordinated with the Kuwaitis for the utilization of their GEM missiles that were being stored in various MSAs. Once the Kuwaitis agreed to allow 2-1 ADA to use 28 GEM missiles, they were immediately obtained and uploaded by the 11th

ADA brigade. The end result was the 11th ADA brigade fired 4 Kuwaiti GEM Missiles and 2 GEM+ missiles to engage and defeat three incoming IRAQI TBMs targeting CFLCC critical assets.

“The Kuwaitis really, I thought, bent over backwards working with us. They were very flexible in their approach to things, and very tied in. And I think they appreciated our candor with them as we were looking to increase our Alert States and our manning early on in Feb 03 because we knew we had to be postured long before the remainder of the force. The Kuwaitis in turn did the same things which allowed us to bring up the entire piece together. They did not have to do this because their posture is tied to their DEFCON level. So, to their forces I cannot say enough about their great professionalism.” - LTC Mantiply, G3 Plans, 32d AAMDC

“Absolutely seamless...you could not find a better model for cooperation, and it was the result of many years of hard work and building relationships.” – BG Howard B. Brombeg, CG, 32d AAMDC

In support of V Corps operations, the 31st ADA brigade was assigned the initial task of providing TAMD coverage to CFLCC's operational priorities including: Camp NY, Camp NJ, Camp PA and Camp UDARI. In addition, the 31st ADA brigade was to provide TAMD coverage for the V Corps assets in the zone and throughout their maneuver during the march up country to Baghdad. As the Corps rear boundary moved forward, the 31st ADA brigade was to conduct a battle handover of defended assets in Kuwait to the 11th ADA brigade.



31st ADA Brigade protects a V Corps Tactical Assembly Area in Kuwait.

The 108th ADA brigade was assigned the initial task of providing TAMD coverage in direct support to I MEF, and initially TAA COYOTE and Camp COMMANDO. In addition, the 108th ADA brigade was to provide TAMD coverage for the I MEF assets in zone and during the maneuver phase. The 108th ADA brigade was also prepared to provide TAMD coverage to the Iraqi port of Umm Qasar and the Rumaylah oil fields and facilities. Like 31st ADA brigade, the 108th ADA brigade was to conduct a battle handover of critical assets in Kuwait to the 11th ADA brigade as the I MEF rear boundary moved forward. The brigade was OPCON to 32d AAMDC and in direct support of the I MEF advance into Iraq. As such, the brigade's mission was to provide TBM coverage for assets that the I MEF commander designated critical. The brigade was composed of Task Force 2-43, consisting of 2-43 ADA battalion and A/3-124 Infantry. This attachment of SECFOR provided a significant logistical challenge for the brigade because although this company contained able-bodied infantry soldiers, it arrived with no vehicles or equipment at all. The Brigade laterally transferred many assets from HHB, 108th to A/3-124 IN. From 2 February to 21 March, E/2-43 ADA was detached from 108th ADA brigade and attached to 11th ADA brigade in order to provide protection of Camp Doha.



E/2-43 ADA outside Camp Doha, Kuwait on 15 March 2003.

Only through the hard work, deft movements, and intrinsic personal skill was the 108th ADA brigade able to find its fit within the structure of 32d AAMDC and the I MEF. Because Patriot has never maneuvered with a forward maneuver element, or been in direct support of a Marine force before, the I MEF struggled at first to find out just where these assets should fit into its doctrinal structure. The I MEF Commander finally determined that the brigade would fall under the III MAF for C2, but that the brigade commander and Assault Command Post would co-locate with the I MEF TOC once combat operations began. The brigade located its headquarters with that of the III MAF at Al Jaber Air Base, Kuwait. 2-43 ADA arrived in theater and moved directly from the APOD to Camp

COMMANDO, where it awaited the arrival of its equipment.

“We were outsiders coming in that they were going to have feed and fuel, and Patriot uses a lot of fuel. But, all those things were able to be worked through. I can tell you over time we were just another Marine on the field, one of the team. And I think that developed over time because of the great LNOs we had out there doing the interface as we went through this operation.” – COL Seward, Cdr, 108th ADA Brigade

In addition, ARCENT-SA, now its own standing air defense brigade, was tasked with providing TAMDC coverage for CENTCOM assets in Bahrain, Qatar and Saudi Arabia. As Phase III unfolded, ARCENT-SA was prepared to move Patriot forces from Bahrain and Qatar to Kuwait.

Task Force North Turkey, which was to be 1-1 ADA(-) was to provide TAMDC coverage to the 4th Infantry Division. When the Turkish government refused to let the United States conduct operations from its country, 1-1 ADA(-), afloat in modified location (MODLOC) was diverted to Kuwait. 5-7 ADA(-) was prepared to defend assets in Turkey and integrate with Dutch Patriot units. On 15 March, under NATO command and control, the Dutch deployed three Patriot batteries to Turkey to provide TAMDC of Diyarbakir and Silopi.

In support of 3BCT/ 3 ID's initial mission to defeat the 11th Infantry Division vicinity Ah Nasariyah, seize OBJ FIREBIRDS, and establish a river crossing of the Euphrates River vicinity the Highway 1 bridge, 1-3 ADA was tasked to provide air defense for all three of these objectives to set the conditions for the Corps forward passage of the I MEF up Highway 1 and 2BCT to the west. The first 72 hours encompassed 90-percent of the unit's pre-hostilities planning, which took them up to An Nasariyah. The battalion simultaneously planned with 3/7 CAV because it knew C/1-3 ADA would be re-task organized to them following the forward passage of lines as a battery; at this time C/1-3 ADA already had a platoon DS to the CAV.

The battalion had 3 key tasks initially: (1) air and missile defense to Camps; (2) providing EW to the division; and (3) synchronization of Patriot coverage in the Division area of operations. When the battalion commander arrived and was briefed on the OPLAN, he decided to keep the ADCOORD with

the DTAC due to the high level of SA afforded by the DTAC. As a result, the battalion commander also decided to conduct split-based operations at that time, moving the battalion TAC (battalion Commander's Bradley, battalion S3's Bradley, 2 HUMWVs, and the ADSI) with 1BCT north across the berm. The battalion TOC with the DMAIN proceeded south with 2BCT

2-44 ADA vehicles and Sentinel radars arrived on the first boat of the 101 AA force module. The battalion had a hundred percent of its required equipment just as the unit crossed LD. The last container arrived at 0200Z the same day the battalion deployed to its attack position at 1000Z later the same day. The battalion really had to rush to get its .50 cal and Avengers fully loaded with ammunition and Stinger missiles. The battalion's mission initially was to perform the traditional air defense roles in support of the 101st AA Division's brigade combat teams, aviation assembly areas and base clusters. Batteries employed "strike platoons," consisting of four Avengers and three Stinger teams, to provide air and ground security.

The Air Defense Strategy

The 32d AAMDC wargamed the AMD fight as having three main phases. The defense of Kuwait was the immediate priority and it was assessed that Saddam would launch his TBMs early in the fight and frequently to disrupt coalition operations. The second phase was crossing the border, but more importantly the river crossing and bridging operations vicinity An Nasariyah. The third phase would be the battle for Baghdad with Saddam using his remaining SRBMs. As a result, the command pushed Patriot units forward and assumed risk in the south because it was uncertain of Saddam's possession of Al Hussein's. Stance was the key. Specifically, in the south the 32d AAMDC assumed risk in Saudi Arabia, Bahrain and Qatar. The assumption was that if he still had long-range systems, the rapid pace of ground war would overwhelm the battlespace he had to operate in to reach these areas. Therefore, the command placed less-capable Patriot systems in those areas with PAC-2 missiles and PAC-2 systems.



32d AAMDC rehearsal before the beginning of combat operations.

“The center of gravity for the TAMDC fight was Kuwait, especially once we were not allowed access to a northern front through Turkey. There was a real and credible threat to Kuwait from Iraqi TBMs. It was very important to defend Kuwait in an integrated fight. The two major airbases for the CFACC were in Kuwait, the CFLCC's main logistical support network was in Kuwait, most of the combat equipment coming into the theater was coming into the Port of Ash Shuaybah, which was in Kuwait. And, any one of those critical assets being hit with WMD delivered by a ballistic missile would have caused a major wrinkle in the Operational and, arguably, the strategic objectives of Operation Iraqi Freedom.” – LTC Joseph DeAntonna, Cdr, 2-1 ADA, 11th ADA Bde, 32d AAMDC

Important to the initial success of the theater TAMDC plan was the ability of the 32d AAMDC to flex combat power at the decisive point and time. The command planned to execute this in three ways. First, the 32d AAMDC had developed a playbook with several theater-level decision points, which were approved by the Combatant Commander and executed. In one case, Patriot batteries would be released early in the fight from Al Sayliyah, Qatar and Arifjan, Kuwait, locations of the CENTCOM Headquarters and CFLCC Theater Support Center to push them north to protect V CORPS and I MEF maneuver assets. Second, the 32d AAMDC would have to utilize shortstop Patriot batteries in order to provide TBM protection to the ever-increasing list of critical assets in theater. Third, the Patriot force would need to mitigate risk and exploit weapon system capabilities by utilizing the Patriot's "remote launch" capability in numerous locations. Patriot forces used the remote launch capability for the following: Al Jaber covered TAA FOX (ammunition storage area); Camp Doha covered out to the MEF TAA COYOTE and a portion of their ASP; and Kuwait Naval Base (KNB) covered out to the Port and Arifjan. Challenges for these remote launch operations would be sustainment, security, and communications. Another point of note for remote launch is the increased possibility of mistaken identity for an enemy TBM launcher.

At 1300Z, 30 March, the 32d AAMDC received a couple of reports from coalition forces of observations of possible enemy TELs in the southern oil fields of Iraq, only to find out when they got the grids, that it was one of their own remote launchers. This demonstrates just how far out and alone remote launch units can be and what types of challenges they are faced with.

"Our playbook was one of the highlights." – BG Howard B. Bromberg, CG, 32d AAMDC

The 108th ADA brigade commander and Command Sergeant Major traveled to 2-43 ADA headquarters in order to update the battalion staff on changes to the overall theater missile defense plan and to brief the new changes to the brigade's plan, captured in FRAGO #24. The new plan called for far greater integration between the assets of the Brigade and the V Corps assets at different phases of the battle, especially regarding the Euphrates crossing at An Nasariyah. COL Seward's greatest challenge at this point was to tie assets of the brigade into the 31st ADA brigade plan for support of the V Corps attack. The brigade staff continued to develop plans to achieve the best coverage at An Nasariyah, integrating 31st ADA brigade assets. At one point, there may have been as many as five Patriot batteries covering the bridge at An Nasariyah.

Throughout the operation, the 108th ADA brigade would face divergent threats, which complicated its Patriot defense design. For all defended assets south of the Euphrates River, the brigade's primary PTL was oriented on the Ababil-100, Al Samoud and FROG-7 threat from the east – Al Basrah to Al Amarah. As expected, this threat turned out to be the most active threat that could range all defended assets of I MEF south of the Euphrates, such as Safwan FARP, the oil fields, Umm Qasar, Jalibah and An Nasariyah. At An Nasariyah, the 108th ADA brigade expected to face TBM threats from both the east (the Basrah area) and from the Baghdad / Ad Diwaniyah area. As the I MEF attacked in zone north of the Euphrates River, the brigade predicted the primary threat would shift to TBMs being launched from the Baghdad area. In short, the 108th ADA brigade would direct its Patriot batteries operating south of the Euphrates to orient their PTL towards Al Basrah and Al Amarah, while Patriot batteries operating north of the Euphrates oriented their PTL towards Baghdad.



MAJ Brian Dunn, 11th ADA Bde, discusses plans with his Kuwaiti counterparts.

To handle the C2 challenges over great distances, the 108th ADA brigade emplaced its main TOC with the III MAW TOC at Al Jaber, and placed its Jump TOC at COYOTE with the TAOC and the 2-43 ADA battalion TOC. The brigade ensured that every battery commander and select staff had an Iridium phone, due to lack of FM communications moving forward. The 2-43 ADA battalion commander envisioned three different battalion clusters; in the east, in the south, and the units moving across the LD with V Corps and TF TARAWA. He placed the 2-43 ADA TOC with the brigade Jump TOC at COYOTE West, and the battalion ALOC was with 1st FSSG at COYOTE East. As 2-43 ADA crossed the LD, the battalion commander would move with A/2-43 ADA who was moving north with 3ID for the priority mission vic An Nasariyah. The 1-3 ADA (3ID) battalion TAC had the responsibility to position A/2-43 ADA vic An Nasariyah at PAA BACON NLT 23 March 2003 in order to protect the bridge located there; the 2-43 ADA battalion XO with select log slices moved with D/2-43 ADA who was moving to the location of the next big Marine logistics base; the 2-43 ADA battalion S-3 controlled TF EAST where the TOC was located; and the battalion CSM moved with C/2-43 ADA. The brigade assumed risk by pushing its key leaders forward with different units, but the Iridium phones allowed them to maintain communications over a 300km area. The brigade also chopped 208th Signal Company to the 11th Signal brigade in exchange for TROPO assets, which were not organic to the brigade's MTOE. As part of the deal, the 108th ADA brigade acquired four total teams, which enabled voice and data with the battalion ICC.

A Calculated Risk That Saved Lives – The Shortstop Battery

The Defended Asset List (DAL) continued to grow. Logbases increased in size and available space for aviation became constrained. As a result, the CFLCC opened up nine miles of road in western Kuwait called THUNDER ROAD, which became an additional base for helicopters. The DAL exceeded the Patriot force's ability to protect it with in theater organic assets, so 32d AAMDC decided to utilize float equipment to create additional Patriot fire units manning them with personnel whose equipment had not yet arrived. Two of those units ended up shooting down a total of four TBMs.

“The need for Patriot was growing quicker than the availability of Patriot. In order to have Patriot, you have to have Patriot equipment and you have to have soldiers. Yeah, it's ideal if you have the soldiers who own the equipment, but not necessary. I think what the CG, 32d AAMDC started to realize is that ‘I've got enough equipment over here; I just don't have enough soldiers to man it.’ So, early on he gave us the mission in 2-1 ADA to shave off enough equipment from the various locations to establish a Patriot minimum engagement package and then resource it with soldiers so that they could perform a ‘shortstop’, which was a mission that was to last 48 - 72 hours initially. And, his concept was right on target. What he wanted to be able to do was to activate a capability to go fall in on a battery that was non-mission capable until it came back up. What the CG started to realize was that ‘hell, I can fly soldiers over here as soon as they load their equipment at Fort Bliss; their stuff is not going to be here for 45 days, but those soldiers can then fall in on these shortstop equipment and start performing a TAMDM mission.’ That's where the CG, I think, was able to satisfy some of the growing requirements that were not

initially planned for given the large concentration of forces that we had on the Kuwaiti/Iraqi prior to the war starting.” –LTC Joseph DeAntonna, Cdr, 2-1 ADA, 11th ADA Bde, 32d AAMDC

The 32d AAMDC assumed risk in several ways. Everyone knew PAC-3 was best against a chemical warhead as well as a long-range Al Hussein, but the command decided to put half of all the PAC-3 fire units forward with the maneuver forces. Even though the shortstop batteries would not have digital communications with an ICC, the command continued to aggressively move Patriot batteries forward as the battle progressed.

“It wasn’t one day into the war and we moved C/2-1 ADA off of Arifjan and so we needed a remote launch to cover Arifjan. Then, C/2-1 ADA went forward all the way to BUSHMASTER, 490km later, to engage a TBM launched at the 101st. So the decision to move a battery off an EAC strategic asset to maneuver forces paid big dividends.” – COL (P) Anderson, CoFS, 32d AAMDC

TF 2-1 ADA was the Army’s first multi-configuration battalion deployed into combat operations. By D-Day, TF 2-1 ADA was comprised of 5 PAC-3 Config-3 batteries with three extended Remote Launch sites and two PAC-2 Config-2 Minimum Engagement Packages. The 11th ADA brigade identified challenges with communications between a Config-3 and Config-2 unit months before deployment and had conducted several exercises between 3-43 ADA (Config-2) and 2-1 ADA (Config-3). As a result, TF 2-1 ADA had several tactics, techniques, procedures (TTPs) and lessons learned prior to receiving the mission to integrate two Config-2 batteries into their Config-3 architecture. The only way to integrate these units with secure UHF voice and data was to employ extensive workarounds. The end result was TF 2-1 ADA having to rely strictly on FM communications from the two distant Config-2 MEPs through a forward deployed Config-3 battery to establish Control through the ICC. Both MEPs subsequently had to perform autonomous operations with no positive control. Regardless of this limitation, the end result would be a TBM engagement by one of these “shortstops” over THUNDER ROAD and the saving of countless lives and equipment from the 101st AA Division.

The shortstops consisted of a Radar, ECS, EPP, and 2 to 3 launchers; all PAC-2 Config-2 equipment. The MEPs posed many challenges for both the TF and the 11th ADA brigade. Sustaining these elements meant taking critical maintenance slices from TF 2-1 Maintenance Company as well as communications assets from the brigade. This put a considerable strain on TF 2-1 ADA as they were already supporting five PAC-3 Config-3 batteries as well as three extended remote launch sites. While 2-1 ADA is a 4-firing battery battalion by MTOE, when G-day initiated, 2-1 ADA was a 7-firing battery battalion as part of TF IRON FIST. Interesting enough, from June 2002 and the start of OIF, 19 March 2003, LTC De Antonna commanded thirteen different Patriot batteries, coming from five different Patriot battalions, at various points during the operation. This accounted for over 1150 soldiers under the control of the battalion with no increase in the strength of a battalion staff used to supporting only 450 personnel by MTOE.



ARNG soldiers performing SECFOR duties for a Patriot site.

THE FIGHT BEGINS

“Cry Havoc and Let Slip the Dogs of War!”

19 March, 2003

19 March: CFLCC conducts cross-border UAV operations in order to detect Iraqi threats to forward deployed coalition forces and critical CSS nodes. V Corps conducts final preparations for combat and continues movement of V Corps elements into attack positions. RIP with Kuwaiti Land Forces completed at 192200ZMAR03 and all lanes are now covered; 3-69 AR (3ID) and 3rd LAR are the counter-recon forces postured immediately south of the border. D-Day is 1800Z today. — obtained from the CMH “History of the Ground War” Brief

Maintenance – A Key Prior to Hostilities

Prior to 20 March 2003, a series of problems plagued the radars of various Patriot batteries. On some days, five to seven radars were non-mission capable. This occasionally left critical assets, such as airports or cities, undefended by Patriot forces. On this day, the first day of the war, all Patriot radars were working. Through a mixture of hard work by maintenance teams, sheer determination of

logistics specialists to get the parts to the right places, and a great deal of prayer, every radar was operational. This first twenty-four hours of the war would also be one of the busiest shooting periods for air defense. All of the Iraqi TBMs were fired from the Al Basrah area, leading to more intense intelligence gathering in southern Iraq using imaging, signals, and sources in the area.

“After about two weeks of Config-3 radar maintenance issues and with one radar down for 36 days, the AMCOM Commander, MG Dodgen, approached us with assistance that would shape our success in the upcoming weeks. Raytheon engineers came to the theater and work with limited sleep and brought the radars, except the D/2-43 ADA radar to a fully mission capable status. Parts were arriving daily and units logisticians were ensuring that before they crossed the border their ASLs were stocked with the common parts (critical 50). Almost magical and beyond our expectations, 48 hours prior to the first TBM attack, all radars were FMC. For the first time since arriving to the theater, the radars seem to have a life of their own and began to function with minimum difficulty. The Patriot stance was ready.” – COL (P)Anderson, CoS, 32d AAMDC

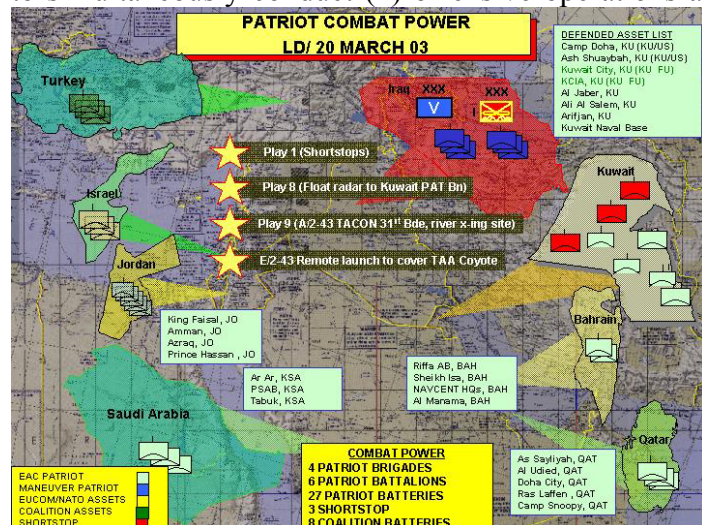
20 March, 2003

At 0245Z, President Bush formally declared war on Iraq. Initial Patriot combat power moving into Iraq was three Patriot batteries for V Corps and three Patriot batteries for I MEF. On 20 March 2003, one day after D-day and the same day that the first TBM attacks occurred on Kuwait, there were 29 U.S. Patriot batteries in the CENTCOM AOR. The arrival of the initial ships for Force Module 1 brought an additional battery for V Corps, D/5-52 ADA, and an additional battery, C/2-43 ADA, for I MEF. The flow of additional personnel from later arriving batteries also allowed for the manning of a second shortstop. Soldiers from 6-52 ADA manned this battery first and then it was eventually handed over to D/5-52 ADA. These systems provided coverage for the 101st AA Division’s helicopters at TAA THUNDER ROAD and Camp UDARI. Additionally,

20 March: Coalition forces continued to mass combat power in preparation for future offensive operations. At 1830Z, the division destroyed enemy border guards consisting of nine observation posts and two command posts with combined artillery and Army aviation fires. At 1936Z, 1BCT in the north and 2BCT in the south moved through the breaches already started by the Kuwaiti contractors during the previous week and finished cleared the lanes; 2BCT destroyed a number of enemy tanks along their route. I MEF attacked into Iraq as well to seize key oil infrastructure vicinity Al Faw peninsula. — obtained from the CMH “History of the Ground War” Brief

during this same time frame, the Dutch deployed 3 batteries to Turkey under NATO command and control. U.S. Patriot force strength now stood at 6,049 soldiers.

Like much of the rest of the force when G-Day occurred, Air and Missile Defense forces were required to simultaneously conduct (1) offensive operations across the LD and (2) RSOI for units still flowing



into theater. It was at this time when the Patriot force was in jeopardy of losing its tactical stance. In some cases, AMD unit personnel had already arrived in theater, but were they were left waiting for their equipment, which was still on ships steaming for Kuwait. While normally there are never enough AMD resources to cover each and every asset deemed important in a theater operation, it was then that it seemed the 32d AAMDC may not be able to provide the required AMD protection to the most critical operational and tactical level assets of V CORPS and I MEF.

Patriot Enters the Battle

At 0718Z, an Iraqi cruise missile was fired at the Marines in Camp COMMANDO, causing no damage but inspiring thousands of soldiers to quickly don their chemical protective gear.

By D-Day, the 11th ADA brigade consisted of twelve batteries and three extended remote launch sites. The 11th ADA brigade was defending COMCENT and CFLCC critical assets, V CORPS assets, and I MEF critical assets. Elements of 31st ADA brigade were TACON for movement to 3

ID and began linkup operations with 1BCT assets. Positioned with TF 2-7 IN was A/2-43 ADA from 108th ADA brigade. Positioned with TF 3-69 AR was E/5-52 ADA. Positioned with TF 3-7 IN was the 31st ADA brigade Jump TOC, HHB/5-52 ADA, 507 Maintenance Company, and B/5-52 ADA, which provided TBM and ABT air defense over the northern breach sites as they waited for their turn to move through the breach with TF 3-7 IN.



One of many border signs that greeted air defenders crossing LD.

The 31st ADA brigade JTOC departed Camp VIRGINIA at 1100Z, within hours of the start of the war. The Main TOC remained behind to track the battle from CAMP VIRGINIA while the JTOC moved forward. The JTOC NCOIC, SFC Christopher Wilkerson, related his experiences during the JTOC convoy:

“The JTOC departed Camp VIRGINIA with fourteen prime movers (vehicles) and thirty-eight personnel. Our team spent its first night bedded down at a 3ID attack position immediately adjacent to the Kuwait-Iraq border. While the JTOC was en route to that first night’s position,

however, Kuwait received TBM volleys. As a result, a considerable amount of movement from Camp VIRGINIA to the 3ID attack position was conducted in MOPP 4. Many of our personnel had never driven in MOPP 4, but they did an outstanding job despite the constraints the chemical protective mask imposed. The area was almost completely browned out. The potential for serious accidents existed even before we crossed the LD, but fortunately, we all made it unscathed.”

That evening the 31st ADA brigade JTOC parked in the same vicinity as HHB/5-52 ADA. While everyone was excited about crossing the berm the next day, there was also an obvious amount of nervous energy. That particular night, the sky was clear and the stars very bright. The sky became ablaze with Advanced Tactical Missile Systems (ATACMS), multiple-launch rocket systems (MLRS), and cruise missiles flying overhead. Most of the JTOC did not get much sleep that night due to the intense firefight overhead. After nightfall, however, operations became considerably more challenging. SFC Wilkerson continued:

“I was a Small Group Instructor (SGI) at Fort Bliss, Texas when I received orders to deploy to the Kuwait AOR as an individual augmentee on TCS orders. Went through the CRC at Fort Bliss and deployed to Kuwait on 16 Mar 03. I was transported down to Arifjan, followed by a movement to Camp VIRGINIA to link up with my unit of assignment, 1-3 ADA of the 3ID, on 19 Mar 03. When I arrived at Camp VIRGINIA on 19 Mar 03, I discovered that 1-3 ADA had already departed north to their Attack Position north. I obtained transportation to the Attack Position and linked up with the battalion Assistant battalion S-3. Once there, I tried to get a couple hours of sleep, but was awakened by the sounds of the Paladins firing directly adjacent to our position; the war had begun.” – CPT Melito, Assistant Battalion S-3, 1-3 ADA (3ID)

“A large number of vehicles repeatedly became imbedded in the soft sand. Many of the vehicles that were not bogged down continued on and left those that were behind, leaving only a few vehicles to stay and pull out the disabled vehicles. By this time, the convoy was strung out for miles. The brigade JTOC did its best to stay together but had to send some vehicles forward to stay with the larger convoy element. The most troubling aspect was the lack of security for the rear JTOC vehicles. Had we run into any resistance, the consequences could have been dire, but once again, we remained secure the entire way.”

During their planning, 108th ADA Bde saw the river crossing at An Nasariyah as the decisive point in execution and therefore decided to send one of their batteries, A/2-43 ADA, forward with V Corps early to An Nasariyah to cover the river crossing prior to the MEF arrival to the area. A/2-43 ADA was march-ordered in Attack Position MARNE with 1BCT (3ID). A/2-43 ADA was the lead Patriot battery in the CFLCC area of operations and had the critical mission to rapidly establish TBM protection over the river crossing site and population center in vicinity of An Nasariyah. B/2-43 ADA, operating with shortstop equipment was in TAA COYOTE providing TBM protection to the I MEF Ammunition Supply Point, and had an “on order” mission to conduct a tactical move to provide TBM protection to the Iraqi port of Umm Qasar within 24 hours of LD. C/2-43 ADA provided TBM protection to 1st MARDIV Dispersal Areas and the attack positions. On the

Essentially, the scene that night was a giant quagmire. Every time a vehicle was pulled out of the deep sand, another became stuck. M88 recovery vehicles were everywhere. Multiple units pulled together in a demonstration of teamwork to overcome the extreme conditions and keep the convoy moving forward. In addition to the soft sand on the ground, the weather continued to present challenges with continual sandstorms placing constant wear on equipment and personnel before the JTOC's safe arrival at Logistics Support Area (LSA) SHELL.

night of 20 Mar 03 (G-1), C/2-43 ADA moved north IOT provide TBM protection to 1st MARDIV breach lanes and the Safwan FARP. At H-12 hours, D/2-43 ADA moved from its position within TAA COYOTE to provide TBM protection to AA HAWKINS, TF TARAWA, and the breach lanes. D/2-43 ADA moved north at H+1 to rapidly establish TBM defense of Jalibah, which would become a Forward Operating Base (FOB) and LSA VIPER for I MEF.



108th ADA Brigade moving north with I MEF.

The 108th ADA brigade commander decided to move the Jump TOC to Al Jalibah. The main body of the Jump TOC departed at 0700Z and arrived at 2-43 ADA TOC an hour and a half later. 2-43 ADA battalion commander, LTC Burke, commanded the battalion from the location of A/2-43 ADA and travel with them as they moved to An Nasariyah with 3ID. Even though the Marines had their own early warning capabilities, they did rely heavily on the brigade to provide EW to specific camp locations. The brigade was allowed to provide impact points and alert those forces at risk. The brigade's LNO cell basically became a targeting cell for the MEF as well and was linked into the I MEF Attack Operations for TST prosecution of any TBM launch locations received through AMDWS. Microsoft CHAT tied into the CFLCC TAMDC cell also allowed for reliable, fast, communications and sometimes it was the only connectivity operational.

Patriot Saved the 101st



D/5-52 ADA (a 'Shortstop' battery) protecting the 101st AA Division at TAA THUNDER ROAD.

The first TBM launch of the war occurred at 0924Z, and targeted TAA THUNDER. Units from the 101st AA Division, specifically its helicopter fleet and 4,000 soldiers, occupied TAA THUNDER. The impact of a high explosive warhead would have caused significant casualties and damage to helicopters. MG Dick Petreaus, the 101st AA Division Commander, later stated, "...PATRIOT saved the 101st!" This launch was detected first by the USS Higgins, an AEGIS cruiser off the coast of Kuwait in the Arabian Gulf. The Higgins gave the area one and a half minutes notice when it immediately notified the Coalition Forces Land Component Command Headquarters and the 32d AAMDC.

"The CSM and I personally witnessed the commencement of combat operations for the Patriot force today while visiting D/5-52 ADA; the timing of moving the float radar to that location could not have been more impeccable. The system performed relatively well with the firing of three GEMs. The second GEM self-destructed shortly after launch. The successful intercept was a real confidence booster to the



COL Glaeser, 11th ADA Bde, talks with soldiers of D/5-52 immediately following the first Patriot engagement of OIF.

troops and the state of Kuwait. CBS embedded media arrived at the D/5-52 ADA location and shot interviews with the ECS crew. I witnessed the interviews and all were sincere and professional. The Brigade remains postured to counter additional tactical ballistic missile threats and is prepared to support the accelerated ground attack plans for CFLCC and support the CFACC's current air campaign plan.” – from COL Glaeser's (Cdr, 11th ADA Brigade) *Commander's Narrative*, 20 March 2003

PAC-3 Records its First-Ever Combat Kill

At 1030Z, the AMDWS picked up a second Iraqi launch of an Ababil-100 from just south of Al Basrah. Indications showed Camp COMMANDO and Camp Doha as the intended targets. 1LT Scott, SGT Spicer and SGT Bostick were on shift inside the ECS, conducting maintenance when the headset called in “SCUD Launch - SCUD Launch”. They brought the radar up to radiate and as 1LT Scott recalled, “just then a TBM appeared on our scope heading directly towards us; and the ground impact point appeared to be right in front of us, vicinity Camp Doha.” E/2-43 ADA, organically part of the 108th ADA brigade, but OPCON to 11th ADA brigade in Kuwait, fired two PAC-3 missiles and destroyed the Iraqi TBM. The TBM was intercepted just three miles away from its intended destination by E/2-43 ADA, which was located just outside of Camp Doha.



First-ever PAC-3 engagement in combat by E/2-43 ADA near Camp Doha, Kuwait.



**CPT Aaron Montgomery,
Cdr, E/2-43
ADA.**

“These guys made it happen. We fight as a unit and could not have done it without everybody there...everyone from the launcher guys going down range to put the launchers in operation, to the maintenance guys who take care of the equipment [anytime it goes down they're on it], to the fire control crews. It also includes everyone from the signal node centers that was there to help provide additional forms of communication to higher so that we could receive early warning, to 3/B/1-179 ARNG from Oklahoma who provided security for our site.” - CPT Montgomery, Cdr, E/2-43 ADA

“They launched another TBM and I was sitting at the helm here on CHAT. The alarms go off, the AMDWS goes off, there's an AMDWS launch point and impact point, you got the little football moving and everybody just executed like you trained. It was so satisfying as a leader to see everybody executing as they train; nobody got excited. Information was passed, CHAT was up, people were talking on CHAT. And, before you knew it we had a report on CHAT that a battery had launched two PAC-3

missiles, and then it wasn't minutes later the battery had a confirmed kill. So, it all worked. The sirens in Kuwait went off, people went to bunkers, people put on their masks, MOPP suits, people were leaning against structures inside the building, the concrete structures. Everybody was at ease and the Patriot did its thing." – COL (P) Anderson, CofS, 32d AAMDC



Crew from D Battery 5-52 that fired the first missiles of Operation IRAQI FREEDOM at a TBM fired at Tactical Assembly Area Thunder, protecting 100 helicopters and 4,000 soldiers from the 101st Airborne Division.

After the second TBM launch, the I MEF Commander then directed the 108th ADA brigade to move B/2-43 ADA to cover Umm Qasar. Coalition forces could not afford to have the port damaged by an Iraqi TBM. The port city was critical, especially for humanitarian relief efforts. Three more TBM launches occurred in quick succession. At 2103Z, missile number three was launched from West of Al Basrah. This Ababil-100 was not intercepted, but fell harmlessly into the Persian Gulf. The fourth missile, launched at 2208Z from North of Al Basrah was an Al Samoud. It too was not intercepted and fell harmlessly into the Kuwaiti western desert. Missile number five was launched at 2320Z and was another Ababil-100 targeted at Camp UDARI. C/5-52 ADA fired one GEM and one PAC-2 missile and destroyed the

incoming TBM.

SHORAD Enters the Battle

1-3 ADA (3ID) task organized their batteries to the division BCTs from the start of deployment. Originally, the battalion TOC was at Camp NEW YORK; Alpha and Delta batteries and a portion of HHB were located at Camp PENNSYLVANIA; B/1-3 ADA was located Camp NEW YORK; C/1-3 ADA was at Camp NEW JERSEY; and a maintenance slice was positioned with the Forward Support Battalion (FSB) at Camp VIRGINIA. The battalion then moved out to the East and South of each of those camps to other areas about three to four weeks prior to moving to their final attack positions. Once movement began, the 1-3 ADA battalion TOC collocated with and provided shared early warning information to the DMAIN. The Assault CP moved to collocate with A/2-43 ADA, which was an I MEF asset but moving with V Corps in order to reach the bridge crossings at An Nasariyah quicker. The Assault CP would assist with A/2-43 ADA's passage through the breach and movement toward OBJ FIREBIRDS. The battalion ABMOC collocated with the DTAC and was responsible for providing TBM and ABT EW to all assets forward in TAA MARNE. 1-3 ADA had to develop some new TTPs for the Sentinel radars due to the rapid movement of the planned Division attack because there was not much time to set up the Sentinel radars given the rapid speed of the movement. As a result, the battalion had to improvise and utilize the JTIDS radios for voice early warning for the division from the A2C2 nodes at the DTAC and the DMAIN.

During each TBM launch the ABMOC had a good TADIL-J link; all EW was received via the corps command TACSAT frequency and was verified via DNVF with the corps Air Defense Element (CADE) after each launch. In support of the division's destruction of the Iraqi border OPs and ISR positions, the

division leadership used the AMDWS picture in the DTAC to monitor the use of airspace in support of the operation. 1-3 ADA predicted a UAV threat on or about the time of LD and TBMs at the bridge crossing sites, such as OBJ CLAY vic An Nasariyah. However, the battalion did not anticipate much of fixed wing or rotary wing air threat until we reached the area just south of the Karbala Gap vicinity OBJ RAMS.

Originally CPT Melito, Assistant Bn S-3, 1-3 ADA, remained with HHC and traveled in the Battalion S-2's vehicle all the way from the Attack Position across Lane 11 until we finally stopped 3-4 days later when the Division Main set-up vicinity LSA Bushmaster. We did notice that the enemy observation posts had been destroyed on the border by the U.S. Paladins. At this point, I had not yet met the Battalion Commander or the Battalion S-3. We did receive one TBM that landed approximately 5km from us and immediately donned MOPP-4. My biggest concern on the first day was finding out what the plan was; I had no idea what the maneuver plan was nor did I have much situational awareness at that point since I had just arrived.

1-3 ADA battalion had a standard air defense mission originally, which was to provide air defense and directed early warning to 1BCT with two Linebacker platoons and an Avenger platoon. One Linebacker platoon was DS to TF 3-69 AR and the second Linebacker platoon was DS to TF 2-7 IN, while the Avengers were GS to the division, covering C2 assets. Sentinel radars were constantly on the move once the LD was crossed. The first objective was just southeast of Ah Nasariyah. The battalion was tasked with assisting with the movement and emplacement of A/2-43 ADA vicinity Attack Position LIZARD near Jalibah airfield. Battalion elements arrived at AA LIZARD about 8 to 10 hours after LD. Communications were sporadic between lead elements and the TOC back in the rear the rear. TF 3-69 AR moved a company team across LD vicinity Lane 6, and the

battalion had 3/3/B/1-3 ADA move across with that company team plus, and once the lane was secured they conducted a forward passage of lines with 3BCT. A/1-3 ADA was positioned to provide direct support air defense coverage to 1BCT vicinity TAA MARNE: 1/A/1-3 ADA (L) was in direct support of TF 3-69 AR; 2/A/1-3 ADA (L) was in direct support of TF 2-7 IN; 3/A/1-3 ADA (A) was in general support to 1BCT. The first element of the battery to cross into Iraq was 1/1/A/1-3 ADA (L) at 192300ZMAR03 to provide far side air defense coverage in support of TF 3-69 AR. 2/A/1-3 ADA (L) followed in support of TF 2-7 IN, crossing the border at 200930ZMAR03

B/1-3 ADA was positioned to provide direct support air defense coverage to 2BCT vicinity TAA APPLING: 1/2/B/1-3 ADA (L) was in direct support of TF 3-15 IN; 2/2/B/1-3 ADA (L) was in direct support of TF 1-64 AR; 1/3/B/1-3 ADA (A) was in direct support of 1-9 FA; 2/3/B/1-3 ADA (A) was in direct support of 26th FSB. 1/B/1-3 ADA (L) was cut to reinforce C/1-3 ADA as it provided air defense coverage to 3BCT.

C/1-3 ADA was positioned to provide direct support air defense coverage to 3BCT vicinity TAA MARNE and was reinforced by 1/B/1-3 ADA (L). 1/B/1-3 ADA (L) was direct support of 2-69 AR; 1/C/1-3 ADA (L)(-) was direct support of 1-30 IN; 2/1/C/1-3 ADA (L) was OPCON to 1-39 FA (MLRS); 1/3/C/1-3 ADA (A) was general support to 3BCT protecting the brigade TAC; 2/3/C/1-3 ADA (A) was general support to 3BCT, protecting the brigade TOC; 3/3/C/1-3 ADA (A) was direct support to 203rd FSB; 5/3/SENT/HHB/1-3 ADA was general support to 3BCT and OPCON to 1-10 FA for movement; 6/3/SENT/HHB/1-3 ADA was general support to 3BCT and OPCON to 1-39 FA for movement; 2/C/1-3 ADA (L) was attached to 3-7 CAV and provided air defense coverage to the squadron vicinity TAA LAMAR. D/1-3 ADA was collocated with the DREAR and provided EW information to the assets located in the division's rear area. The battery commander, CPT Chad Kinneer, collocated with the DTAC so he could keep in contact with his lead platoon, 3/D/1-3 ADA, during the initial stages of the battle.

Meanwhile for 2-44 ADA, as the 101st AA Division began to move north into Iraq, batteries were tasked to provide air and ground defense and early warning to the division's Ground Assault Convoys (GACs) and the maneuver units as they conducted air assault missions to establish Forward Arming and Refueling Points (FARPs), and the division's Forward Operating Bases (FOBs). Air defense of these FARPs and FOBs was based initially on Stinger Teams, followed by the addition of the Avengers upon arrival of the GACs.

2-44 ADA's initial mission was standard air defense and early warning, but the mission changed as soon as the battery crossed LD. Second platoon crossed LD first with TF 2-187 (TF Raider), which went to RRP EXXON. Just as 1-3 ADA had experienced, 2-44 ADA also had numerous early warning challenges due to the speed of the division's movement and not having time to set up the Sentinels as they would have liked. For example, CPT Patrick Costello, commander of C/2-44 ADA, sent its first and third platoons with their task forces and took three of his Sentinel radars directly to FARP SHELL with his vehicle. He then pushed one Sentinel further north to FOB-5. FM communications was hard to achieve over the long distances. Batteries had challenges maintaining communications with platoons back at RRP EXXON as they moved forward.

Early Warning

The day's first five TBM launches, with their detection by the USS Higgins, set the pattern for all further TBM early warning events. Prior to the war, most people had assumed that early warning would come from satellites and Space Command. In reality, most of the warnings came from the USS Higgins and the USS Observation Island. The performance of the Aegis system points to significant changes in early warning and communications systems, as well as the value of the United States Navy and inter-service cooperation. The Giant Voice and Kuwait Civil Defense early warning systems, as well as the many pagers purchased for this purpose, alerted all soldiers and civilians to put on chemical protective gear and take shelter. The AMDWS system passed the alarm to all Patriot batteries.

21 March: At 0301Z V Corps crossed LD and rapidly attacked north through light Iraqi resistance supported by sporadic mortar fire, and secured the Highway 1 Euphrates River bridge vicinity An Nasariyah and continued to attack north towards Tallil Airfield. 3BCT (3ID) in the north and 3-7 CAV in the south passed through the lanes and took the lead as the division moved to their initial objectives; 3BCT led in the north to its assault position south of the Tallil Airbase. 3-7 CAV led in the south as it traveled west along Route HURRICANES around the Subayat depression and then north toward long Route TORNADO toward As Samawah 1BCT, trailing 3BCT along the northern axis, cleared the Jalibah Airfield. Once the refueling operations had been completed, 3BCT launched its attack shortly after dark to destroy the 23rd Armored Brigade vicinity OBJ FIREBIRDS and seized OBJ CLAY at 2035Z. TF 2-69 AR led the attack to clear a series of PAAs to the southeast of the objective. 101st AA crosses LD at 1748Z toward OBJs SHELL and EXXON. I MEF also crossed the LD at 0300Z with the 1st UK Division and secured the southern oil fields by 1808Z, continuing the attack north to defeat the 51st Mech Division. TF TARAWA reached EA HAWKINS and await orders to proceed to OBJ JALIBAH to conduct RIP with 3ID forces. – obtained from the CMH "History of the Ground War" Brief

Overall, early warning transmission was good as long as the communications backbone was up. Most problems occurred when units, who did not have TACSAT, maneuvered beyond the range of communications with their higher units. Early warning information fused over TADIL-J, came into the AMDWS, ADSI, and WOTS, and was then sent out by voice over AC-10. In addition, the TBM EW system had a hot-link to Cheyenne Mountain as well as the PAWS pager system. CFLCC also worked extensively to establish a hotlink directly from CFLCC Operations Center to the Ministry of the Interior's Operations Center in Kuwait, and conducted countrywide early warning drills in Kuwait to ensure that early warning was provided to the civilian populace as well.



AEGIS class cruiser similar to the USS Higgins.

21 March, 2003

Kuwaitis Achieve First-Ever Patriot Engagement in Combat

The 32d AAMDC sent out FRAGO 2 accelerating the timeline for detachment of forces. C/2-1 ADA was ordered to 31st ADA brigade and E/2-43 ADA to 1st MEF NLT 2000Z today. E/2-43 ADA would eventually be relieved by C/6-52 ADA, a Config-2 Patriot unit from the 69th ADA brigade out of Germany.

At 1001Z, AMDWS indicated an Iraqi TBM was inbound towards TAA FOX and the city of Al Jahra. This one was another Ababil-100. Kuwaiti Firing Battery 3 engaged with one GEM missile, but Kuwaiti Firing Battery 5 actually intercepted the TBM with two GEMs of their own. The engagement was significant for two reasons. First, had this Iraqi missile hit either Ali Al Salem airfield or Camp Doha, particularly the command facilities for all Coalition land forces in Southwest Asia, the casualties and loss of equipment may have been severe. Second, this was the sixth Iraqi TBM that was successfully engaged and destroyed by Patriot systems to date and marked the first-ever Patriot engagement in combat by a Kuwaiti Patriot battery. The Iraqi TBM was intercepted by the Kuwaiti Air Defense Battalion, commanded by Colonel Jasem Al-Huwaitan. Kuwaiti Firing Battery Five, commanded by Major Majid Al Khalidi, fired two GEM missiles and destroyed the incoming Ababil-100. This removed doubts about the GEM capability to destroy missiles. The Kuwaitis were defending not only their own country, but were also Coalition Forces. They were fully integrated into the Patriot command and control network, passing information and accepting missions from the Patriot command. The Kuwaitis also freely exchanged parts, missiles, and equipment with the United States. It is fair to say that the Kuwaitis were an instrumental part of the success of air defense forces in this operation. Though Kuwait did not send soldiers into Iraq, they were truly participants in this war. They put their cities and people at risk by hosting the coalition forces, gave up half of their land area for military maneuvers, and continued to defend the base areas as coalition land forces moved into Iraq.



Soldiers in MOPP IV seek cover from an incoming Iraqi TBM.

Crossing the LD

The 31st ADA brigade Jump TOC made it to PL IOWA. Their final destination was OBJ RAMS. Meanwhile, equipment and personnel were still arriving in Kuwait from the U.S. and other coalition partners. On 21 March, a ship arrived and downloaded 109 pieces of equipment for 6-52 ADA, one of the battalions task organized to 31st ADA brigade. As personnel arrived, picked up their equipment, and completed the RSOI process, the fresh unit would be assigned to one of the static locations in Kuwait. When the new unit had assumed "TBM Search Mode" and was ready to defend, the unit that

had been in place would pack up its equipment and either move forward to a new position closer to Iraq, or would keep its equipment loaded and join one of the caravans of military equipment preparing to move into Iraq.

At about the same time, the 108th ADA brigade received FRAGO #1 to OPOD 03-0201, from the 32d AAMDC, releasing E/2-43 ADA back to the 108th ADA brigade from 11th ADA Brigade at 1800Z. E Battery then conducted a relief-in-place of C/2-43 ADA, which was providing coverage of the breach lanes for the I MEF units

C/1-3 ADA continued to provide direct support air defense coverage to 3 BCT as it moved to its assault position vicinity PL MIAMI and attacked to destroy the 23rd Armored Brigade vicinity OBJ FIREBIRDS. 2/1/C/1-3 ADA (L) was the first air defense unit to cross the LD as it moved to protect 1-39 FA (MLRS) vicinity PAA FLOOD. 1/B/1-3 ADA (L) provided air defense coverage of C/2-69 AR and provided the initial air defense coverage of the Highway 1 Bridge vicinity OBJ CLAY, receiving heavy mortar fire and some small arms fire. 1/3/C/1-3 ADA (A), under the command of SSG Roderick O'Neal, moved forward to relieve 1/B/1-3 ADA (L) at OBJ CLAY and received determined mortar fire but never dropped the air defense coverage over the bridge until it was relieved by the air defenders moving with TF TARAWA. Sentinel Team 5 took mortar fire while providing early warning information from PAA TROUPE, multiple positions along Highway 1, and PAA BACON. Immediately upon arriving outside of Tallil Airbase, CPT Smith and elements of Bravo Battery began receiving small arms and mortar fire. Beyond communications range and without orders, CPT Smith made the decision to clear and occupy PAA BACON since he knew that the emplacement of A/2-43 ADA (PATRIOT) was dependent on this action. In PAA BACON, CPT Smith led one of his Bradley Linebacker platoons into a military compound, breaching the front gate, aggressively clearing the compound, securing PAA BACON, and successfully emplacing the lead elements of A/2-43 ADA. 1/C/1-3 ADA (L) moved in direct support of TF 1-30 IN by providing air defense coverage over the breach leading into the Tallil Airbase until it was called forward to assist the battery commander, CPT Ruel Smith, in securing the A/2-43 ADA (P) RSOP party by clearing a small, mostly abandoned enemy military compound. 2/C/1-3 ADA (L) continued to provide air defense coverage to 3-7 CAV as it attacked to seize the canal crossing sites south of As Samawah; the platoon engaged and destroyed a technical vehicle attacking the FAARP at the intersection of Route TORNADOES and Route HURRICANES.

attacking into Iraq. Shortly thereafter, I

The 108th ADA brigade received an alert from the III MAW stating that a CH 64 lame duck helicopter was coming into Kuwait from Iraq, but that it could not squawk correctly, or respond to our queries to identify itself. Patriot crews were immediately notified of the situation and the helicopter was able to return safely without incident.

MEF secured Safwan Airfield and C/2-43 ADA was ordered to provide Patriot coverage of the Safwan FARP. Once again, E/2-43 ADA was ordered to displace and conduct another relief-in-place with C/2-43 ADA vicinity the Safwan FARP. It is worth noting that E/2-43 ADA conducted an all-night movement up Highway 80 to conduct the relief-in-place with C/2-43 ADA, enabling C Battery to execute movement west along MSR TAMPA with RCT 7, 1st MARDIV as they attacked in zone towards An Nasariyah. C/2-43 ADA began moving at about 0200Z. 2-43 ADA now had most of its entire battalion on the move, or at least prepared to move on very short notice. A/2-43 ADA began moving at approximately 0100Z, following just behind the lead elements of 3ID. D/2-43 ADA was moving with Task Force TARAWA (IMEF) on its way to Jalibah, and. B/2-43 ADA remained on site at TAA VIKING, providing protection for the port of Umm Qasar.

The 3ID scheme of maneuver was 3BCT and 1BCT in assembly areas in the north and 3/7 CAV and 2BCT in assembly areas in the south. 1BCT went

through the breach with limited assets and 2BCT breached lanes in the south for 3/7 CAV. This launched the CAV in the south and 3BCT on Routes TORNADOES and HURRICANES. The first mission for 1-3 ADA was to move towards Tallil and provide air defense for the bridges vic An Nasariyah with C/1-3 ADA. In the south, the mission was predominantly convoy air defense protection. The next critical mission would be to protect the bridge at As Samawah once it was secured by 3/7 CAV. 3BCT contained forces in An Nasariyah and we were to pass the MEF through. The 1-3 ADA ADCOORD moved with the DTAC as it moved behind 3BCT; assumed an initial position south of PAA FLOOD. A/1-3 ADA continued to provide direct support air defense coverage to 1BCT as it attacked north to clear the Jalibah Airfield and occupied its assault position vicinity PL MIAMI. B/1-3 ADA

continued to provide direct support air defense coverage to 2BCT as it moved behind 3-7 CAV to the south.

C/1-3 ADA moved with 3BCT with two Linebacker platoons and an Avenger platoon. 1-3 ADA had detached a Linebacker platoon from C/1-3 ADA and attached them to 3/7 CAV in the south. The rationale for this is that 1-3 ADA knew there would be task organization change between An Nasariyah and As Samawah, where elements of C/1-3 ADA were expected to link up and become DS to 3/7 CAV. Therefore, the battalion took the extra platoon when C/1-3 ADA moved up to Tallil Airfield vicinity PAA BACON to secure the bridgehead there. In return, the battalion gave them a platoon from B/1-3 ADA in the south. In short, the battalion accepted risk by taking a platoon from B/1-3 ADA, but it was critical to ensure that 3/7 CAV had air defense in direct support as they were the lead element for 3ID, and the battalion had to do this without jeopardizing the combat power of C/1-3 ADA who was the lead air defense battery in the initial attacks through the breach with 3BCT. D/1-3 ADA continued to provide air defense coverage to the DTAC, DIVARTY, Aviation Brigade, and Class III/V stockpiles. For 2-44 ADA, both voice and data early warning were initially provided to the forward deployed batteries via Tactical Satellite (TACSAT) and AM radios. The TACSAT radio became the primary means of early warning until the Sensors reached the forward deployed forces via Ground Assault Convoy (GAC) and

began providing a Local Air Defense Warning network. An autonomous AMDWS picture could also be quickly established due to the positioning of JTIDS radios at the Division's Assault Command Post (ACP) and the Division Main.

22 March, 2003

Tallil Airbase and An Nasariyah

COL Brown, brigade commander for 31st ADA brigade, had her TOC located right along PL ALABAMA. A/5-52 ADA was thirty kilometers behind COL Brown, and B/5-52 ADA made its way through the river crossing of the Euphrates. C/2-1 ADA was located north of Camp NEW JERSEY. With the assistance of the 1-3 ADA battalion's Assault CP, A/2-43 ADA assumed its position vicinity PAA BACON and began to provide air defense coverage over the Highway 1 bridge. Follow-on assets from 31st ADA brigade continue to move with elements of 1BCT along Route ROVERS toward their initial defensive positions vicinity OBJ RAMS.

22 March: Artillery then fired several preparatory missions on the Tallil Airfield while the Aviation Brigade conducted a deep attack vicinity the Highway 1 bridge to prevent movement of reinforcements. 3-7 CAV continued to move toward As Samawah and the canal crossings vicinity OBJ CHATHAM. 3BCT continued to complete the destruction of the 23rd Armored Brigade and the defeat of the 11th Infantry Division vicinity the Tallil Airbase. After the artillery preparation fires and Aviation Brigade deep attack, TF 2-69 AR continued the attack along Highway 1 to the bridge, encountering light resistance. TF 1-15 IN followed and occupied blocking position north of OBJ FIREBIRDS to isolate the objective. TF 1-30 IN then followed and cleared the airfield; they also encountered light resistance. TF 1-15 IN moved to OBJ LIBERTY, an intermediate objective, and destroyed several armored vehicles, support vehicles, and enemy dismounts. 101st AA establishes FARP EXXON.

Concurrent with 3BCT's attack on OBJ FIREBIRDS, 3-7 CAV attacked to secure the bridges vicinity OBJ CHATHAM. The squadron easily secured the crossing sites. The squadron was then counterattacked by fanatical paramilitary forces, some equipped with pickup truck mounted with machine guns; the attack was repelled numerous times throughout the night. 3-7 CAV also destroyed several S-60 AA guns 2BCT passed to the rear of 3-7 CAV and began its attack north to OBJ RAMS to the west of An Najaf; as the brigade's lead, TF 1-64 AR encountered the same irregular paramilitary forces that were attacking 3-7 CAV vicinity As Samawah.

1BCT and a number of divisional and corps units then passed to the rear of 3BCT and continued its movement toward As Samawah and OBJ RAMS along Route ROVERS and Highway 8. TF 2-70 AR relieved TF 2-69 AR defending the Highway 1 bridge. TF 2-69 AR and 1-10 FA joined 1BCT and moved forward as well. Priority of effort switched from 3BCT to 2BCT as the attack moved forward toward OBJ RAMS. Elements of Task Force TARAWA, moved forward in preparation to conduct a forward passage of lines through 3BCT vicinity An Nasariyah. – obtained from the CMH "History of the Ground War" Brief

Within 48 hours after crossing the LD, 2-43 ADA executed every movement, some under artillery and mortar fire, in a flawless manner and had established a TBM defense in accordance with the I MEF Commanding General's priorities. A/2-43 ADA was at the "tip of the spear" within CFLCC and had to quickly establish TBM defense of the river crossing site and population center of An Nasariyah on 22 Mar 03 (G+1). Their PTL was oriented towards the known threat from the east (Al Basrah / Al Amarah). B/2-43 ADA was fully emplaced and providing TBM protection to Umm Qasar, which was in the UK zone of the I MEF area of operations. As such, B/2-43 ADA maintained a support relationship



Airfields were key to logistical resupply as units moved further north into Iraq.

with the 1st UK Division and drew all classes of supplies, minus CL V & CL IX, from the British. Following a successful relief in place with E/2-43 ADA vicinity SAFWAN on 220730ZMAR03, C/2-43 ADA executed a seamless link-up with RCT 7 and moved to the rear of their formation as they attacked in zone towards An Nasariyah.

By 0400Z, 3ID had secured both bridges at An Nasariyah and Tallil Airfield. The bridgehead itself was one of only a few bridges that crossed the Euphrates, which was strong and wide to accommodate the coalition force headed north. Tallil airfield would become the initial theater logistics staging area (LSA ASP). TBM protection of these assets was critical to

the CFLCC Commander. D/2-43's RSOP team arrived in Jalibah, and the equipment seemed to be holding up well. LTC Burke, the battalion commander, expressed some concern that A/2-43 ADA had taken a treacherous route on their way to An Nasariyah, and that their radar might not be operational when they set up to guard the bridge crossing. Another Patriot battery, C/2-43 ADA, was also on its way to An Nasariyah. At 0500Z, after A/2-43 ADA set up at An Nasariyah, fifteen Iraqis surrendered to its RSOP team. This added to the list of "firsts" for the unit. It had, for the first time in its history, moved forward with maneuver units in combat. Now again for the first time, A/2-43 ADA had to conduct EPW operations. E/2-43 ADA provided TBM protection to Safwan FARP, and by 221300ZMAR03 had established a remote launch emplacement in Iraq that extended TBM protection over the Ramallah Oil Fields and the Az Zubayr Pumping Station.

The Logistics Tail Begins to Uncoil

The 32d AAMDC had developed a play, called "Super Log Pacs," that focused on being able to flex for sudden logistics issues. The command gathered together ground and lift assets and assembled parts required by the Patriot force in advance. These Super Log Pacs were pushed up into Iraq so the Patriot units would not have to wait on individual log pac from their supported units or from theater-level LSAs. This was especially important for 31st ADA brigade supporting V Corps. The 31st ADA brigade was not an organic air defense brigade to the corps and the amount of distance the brigade was covering required additional logistical support from the 32d AAMDC.



Air Defenders had to conduct their own resupply internally.

The parts flow mission created one of the greatest challenges to the brigades supporting the maneuver forces. During the first part of March, both of these Patriot brigades, 108th ADA brigade and 31st ADA brigade, were tasked to provide three soldiers to report to Arifjan to sort through parts and find the brigades' parts among the multitude of arrivals into the theater. These soldiers soon moved to Camp Doha. This parts flow challenge presented a new twist in Patriot operations, especially for 108th ADA brigade since OIF was the first time in history that Patriot had been integrated into Marine operations. Both brigades were able to overcome the parts distribution problems by organizing and running Super Log Pac missions from the theater Class IX missile warehouse (Arifjan) to the forward deployed SSA at Tallil Airbase. In one case, the 108th ADA brigade had to acquire three Stake and Pallet (S & P) trucks from the theater pre-positioned Stocks and tie into the III MAF resupply aircraft flow. The 108th ADA brigade was also successful in plugging into the I MEF logistical backbone. While 2-43 ADA was in TAA COYOTE, the battalion received logistical support from the 1st FSSG. The brigade began planning immediately after arriving in theater to ensure 2-43 ADA batteries were able to receive basic logistical support from 1st FSSG throughout the battlefield. It was a challenging task at times, because the brigade's Patriot batteries were "foreign" units to the Marines they were protecting. Essentially, the brigade S4 would work with I MEF logisticians to determine the physical location of the nearest FSSG asset to a brigade unit at a place on the battlefield, and then request permission from I MEF to tap into resources at that particular location. 2-43 ADA estimated that they internally moved over 35 MILVANS, 40 ISU-90s, and 14 QUADCONs north into Iraq during OIF. The flow of Log Pacs within the area of operations proved to be the most substantial logistical challenge both brigades faced when units began to move forward. In the end, the Patriot brigades' logistics tail was almost 400km long.

The long lines of communication also presented a communications challenge to the Patriot brigades given the unprecedented distances Patriot units would traverse in accordance with the CFLCC plan. The distances required tropospheric (TROPO) scatter assets the brigades did not possess organically. To mitigate the lack of assets, the 108th ADA brigade worked an exchange with the 11th Signal brigade, releasing the 208th Signal Company to the 11th Signal brigade for the duration of the operation in exchange for TROPO assets that could be utilized by the brigade. This exchange was beneficial to both parties. 208th Signal Company's Mobile Subscriber Equipment (MSE) equipment was not compatible with the I MEF communications backbone but could be utilized to support theater requirements; the tropo assets would assist in filling a void in the 108th Brigade's communications requirements.

1-3 ADA Battalion TOC collocated with and provided shared early warning information to the DMAIN while the Assault CP had escorted A/2-43 ADA along Highway 1, around the Tallil Airbase, and into position vicinity PAA BACON; before leaving, the commander talked with the A/2-43 ADA commander and ensured that all assets were accounted for and that they were in the proper position to provide TBM and ABT air defense coverage over the Highway 1 bridge to the northwest. The Assault CP continued to move forward along Highway 8 and continuously regained control of the battalion's assets as they came within communications range. The ADCOORD with the DTAC continued to move



Soldiers from 5-52 ADA receive re-supply from CH-47 "Chinook" helicopter.

with the DTAC behind 1BCT and received ineffective indirect fire vicinity PAA FLOOD as the DTAC moved along Highway 1 toward the Tallil Airbase. Lead elements of the DTAC come under direct fire as they enter into As Samawah; the DTAC stays in place until elements of 3-7 CAV can destroy the enemy threat.

A/1-3 ADA continued to provide direct support air defense coverage to 1BCT as it continued to move through 3-7 CAV and behind 2BCT toward the Escarpment and OBJ RAIDERS. As 1/2/A/1-3 ADA (L) and the 2nd Platoon Sergeant, SFC Matthew Gruidl, passed to the south of 3BCT vicinity An Nasariyah, they received heavy small arms and RPG fires. The section was able to lay suppressive fire in order to extract themselves from the situation. The section was also able to extract HHC/2-7 IN from within the An Nasariyah city limits back into safe terrain and follow them south to Route ROVERS.

B/1-3 ADA continued to provide direct support air defense coverage to 2BCT as it passed to the rear of 3-7 CAV and moved to secure OBJ RAMS. 2/2/B/1-3 ADA (L), led by SSG Chase Dockery, engaged and destroyed approximately three enemy vehicles and 25 dismounted infantry with vehicle B23, under the command of SSG Jeffrey Banks, destroying the majority of the enemy. After being cut from C/1-3 ADA and attached to TF 1-15 IN, 1/B/1-3 ADA (L) moved with and supported the task force as it assisted in blocking enemy forces exiting As Samawah; the platoon remained in position and secured the nearside of the bridgehead controlling access to As Samawah until it was relieved by elements of 3-7 CAV.

Staff Sergeant Roderick O'Neal distinguished himself while serving as an Avenger Section Leader with C/1-3 ADA (3ID) while attached to 2-70 AR. SSG Roderick O'Neal's section was assigned the mission of providing near and far side air and missile defense of the Highway 1 bridgehead west of the town of An Nasariyah. This crucial river crossing served as the point through which the 1st MARDIV would attack into the Euphrates River Valley. After relieving 1/B/1-3 ADA, of the mission to provide air defense of the bridge, SSG O'Neal and his wingman took up positions on the far side of the bridge, the only U.S. forces across the Euphrates at the time. At or around 0700Z, SSG O'Neal's Avengers began receiving mortar fire; the first round landed within 100 feet of his vehicle. He requested and received permission from his battery commander to reposition, and continued his mission. Approximately one-half hour later, the Avenger section again took mortar fire, and Staff Sergeant O'Neal again called the commander for permission to reposition. The commander ordered Staff Sergeant O'Neal back across the bridge to continue providing air defense from the near side. When Staff Sergeant O'Neal's section again took fire, it became clear to his commander that an enemy observer was deliberately targeting the Avengers. Requesting Q36 counterfire support against the enemy mortar through the 3BCT Assault Command Post, the commander, C/1-3 ADA learned that the Brigade Commander was also observing the mortar rounds, and was himself in danger close to the attack. The battery commander again called SSG O'Neal and suggested he fall back to the maximum extent of his weapons range (approximately 4 kilometers) from the bridgehead and provide air defense of forces approaching the bridge. SSG O'Neal, given the opportunity to move out of danger, refused. He was heard speaking to his wingman on the radio by both his commander and the C/1-3 ADA TOC NCOIC, calming and encouraging his subordinate team chief following a particularly close mortar impact with the following words: "C35, this is C33, we are tasked to provide air defense of this bridge, and that's what we're going to do. Continue to reposition and continue the mission; how copy, over." SSG O'Neal, responsible for executing Charlie battery's most essential task in Phase II of its combat operations in Iraq, bravely continued the mission while receiving mortar attacks on his position, and while motivating his section to do the same. He skillfully kept the section safe while accomplishing his task throughout a thirty-six hour period until relieved by the Marine Avengers of TF TARAWA.

C/1-3 ADA continued to provide direct support air defense coverage to 3BCT until it was released from that mission; all elements within the command received ineffective indirect fire and many of the Linebacker squads had direct fire engagements resulting in the destruction of numerous enemy targets. 3/C/1-3 ADA (A) remained with 3BCT and attempted to provide SHORAD coverage over the Highway 1 bridge site, but was repeatedly chased off by enemy indirect fire targeting their positions. The rest of the battery moved to a rally point west along Highway 8 where the commander regained control of his assets, linked 2/B/1-3 ADA (L) with TF 1-15 IN for movement to 2BCT, and moved his assets to link up with 3-7 CAV and 2/C/1-3 ADA (L). Once linked up, the battery provided direct support air defense coverage to 3-7 CAV as it defeated Fedayeen attacks vicinity As Samawah. 1-3 ADA had a traditional

air defense mission all the way through An Najaf, but between As Samawah and An Najaf, the role played was increasingly becoming a ground, direct fire-oriented role.

“The 3BCT commander gave me the MRLS battalion as his number one priority for air defense due to an upcoming counterfire raid. Since they were pushing the MRLS battalion and the Q37 radars out in front of any maneuver forces prior to our departure from our assault positions, so he told me he wanted air defense of that counter-fire raid. What I think he was also asking me for was Linebackers providing direct fire ground security of MRLS forces who were going forward of the tank and infantry battalions and we provided that. The first Bradleys to cross the probable line of contact at An Nasariyah were second section of my first platoon. They were not Infantry Bradleys or M1 Tanks. The first non-artillery combat vehicles crossing that line of contact were a section of my Linebackers.”- CPT Ruel Smith, Cdr, C/1-3 ADA, 3ID

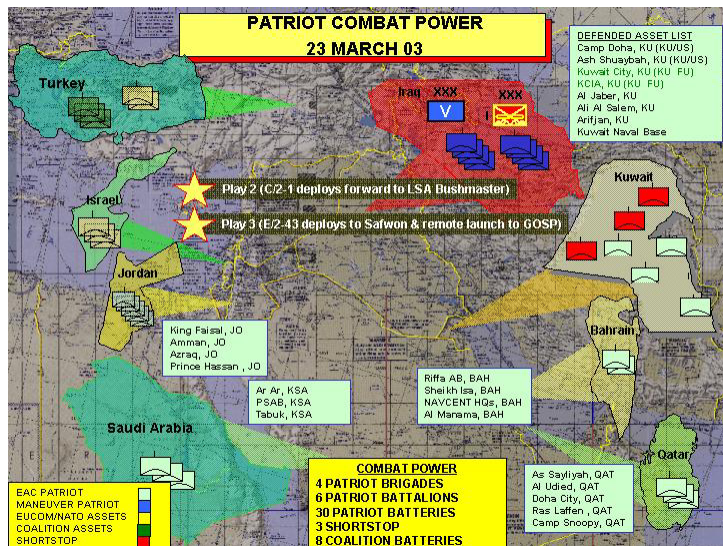
We Are Tasked to Provide Air Defense of This Bridge, and That’s What We’re Going to Do!

C/1-3 ADA experienced some contact vicinity An Nasariyah. The battery had 1/B/1-3 ADA attached to it initially. The platoon arrived with 2-69 AR at the bridge and as 2-69 AR seized the bridge, 1/B/1-3 ADA performed a near-side, far-side coverage air defense mission along with C/1-3 ADA Linebackers. However, as soon as 3BCT moved up, the GS Avengers from C/1-3 ADA relieved 1/B/1-3 ADA at the river crossing. The tempo of operations began moving incredibly quickly at this point, and 2-69 AR was forced to move out to continue their drive north about 24 hours sooner than C/1-3 ADA expected, the bridge not yet fully secured. At this point, the GS Avengers began to take immediate mortar fire. The 3BCT CAC was on the near-side, not far from the near-side Avengers. The Avenger Section Leader, SSG Roderick O’Neal and his wingman were on the far-side with two Avengers and began to conduct survivability moves exactly as they’re trained to do. More mortar fire came in, this time a little more effective. Monitoring this action, the C/1-3 ADA commander directed SSG O’Neal to reposition his Avengers further back to a safer distance, but SSG O’Neal remained on the near-side of the bridge in order to fulfill his mission.

23 March: V Corps units encountered Fedayeen forces in the vicinities of An Nasariyah, Highway 8, As Samawah, and OBJ RAMS. Convoys were being ambushed by several mobile ambush teams intending to draw units into urban combat. 3ID continued it’s move forward to OBJ RAMS and RAIDERS led by elements of 2BCT. TF 1-64 AR served as the brigade’s lead element and continued to destroy pockets of resistance. Technical vehicles targeted the Brigade as they moved closer to An Najaf. Even after occupying OBJ RAMS, the brigade continued to destroy numerous suicide attacks from An Najaf. As the lead elements of 1BCT passed through As Samawah, they met significant resistance from irregular paramilitary forces that forced the division’s convoy to halt; though the threat was destroyed, the convoy was forced to turn south off of Highway 8 and travel along Route ROVERS. 3-7 CAV continued to secure the LOCs passing through As Samawah, destroying numerous mortar teams and groups of dismounts and technical vehicles. 101st AA secures OBJ SHELL and initiates deep attack against Medina Division at 220Z.. TF TARAWA and 3ID completed a RIP at 0200Z.– obtained from the CMH “History of the Ground War” Brief

At 1547Z there was a report of a UK GR-4 Tornado being shot down.

After FARP SHELL, the C/2-44 ADA battery assumed the responsibility for brigade and division situational awareness for Patriot and any required SHORAD-Patriot coordination until the Division ADCOORD arrived in theater two to three days later. During this period, Patriot batteries began arriving at FARP SHELL and 2-44 ADA was tasked with providing security for the Patriot batteries. In addition, the battalion had to attach one of its platoons to 3ID for its push north. 3/C/2-44 ADA went with TF 3-187 (TF IRON) to assist in the seizure of BIAP.



23 March, 2003

Dynamic Re-Task Organization Protects the Maneuver Force

On 23 March, coalition forces came under another missile attack. The missile, an Al Samoud, originated from the area north and west of Basrah. It targeted Camp NEW JERSEY. C/5-52 ADA engaged and destroyed it, firing one PAC-2 missile and one GEM missile- the first Al Samoud in history to be shot down in combat by a U.S. unit.

The 32d AAMDC made modifications in the TAMC task organization to provide additional combat power into Kuwait. C/2-1 ADA, previously located at Arifjan, was chopped to 31st ADA brigade for movement into Iraq. C/6-52 ADA conducted a relief-in-place with E/2-43 ADA at Camp Doha and E/2-43 ADA was returned to its battalion to provide support to I MEF. At the same time, 5-7 ADA deployed a headquarters and two Patriot batteries to Turkey under NATO control. The Patriot force supporting OIF now numbered about 6,224 soldiers.

An Nasariyah to As Samawah

The 31st ADA brigade JTOC was located with A, B, and E/5-52 at OBJ RAMS. E/5-52 ADA was attacked by enemy fire during a convoy near OBJ DADE. As of 1500Z, 31D made it through OBJ RAMS and FARP SHELL. E/5-52 ADA then linked up with the 101st AA Division.

The 2-43 ADA TOC remained co-located with the Marine TAOC in TAA COYOTE and the battalion ICC and Jump TOC moved with the Marine EW/C to Jalibah. A/2-43 ADA worked through the night to make five of its launchers operational by 0400Z at An Nasariyah. C/2-43 ADA arrived at An Nasariyah, but could not occupy their planned site because there was still a firefight ongoing there. By 1100Z, Charlie battery was able to occupy its site and set up operations.

1-3 ADA Battalion TOC moved with the DMAIN to assume a position vicinity AA X-RAY within OBJ RAMS and continued to move with and provide EW to the DMAIN. The Assault CP continued to move forward and control the battalion's movement forward and occupied an initial position vicinity OBJ RAMS.

"Going through As Samawah was the first time that everyone perked up and started being a lot more alert. Just prior to that it was just driving through the desert in a convoy very, very slow...very dusty, couldn't see very well, just a little confusing. But once we got through As Samawah, and we started moving up to where we initially set up the Division Main, situational



CPT Melito, Assistant. Battalion S-3, 1-3 ADA (31D), in front of a Patriot battery his battalion was providing security for in Iraq

awareness started improving, probably due to our proximity to the maneuver Brigades.” – CPT Mike Melito, Assistant Battalion S-3, 1-3 ADA, 3ID

It took a few hours to pass through As Samawah because there were other units there, no traffic control points, only one major road intersection with multiple convoys running into one another and the approaching hours of darkness; 1-3 ADA had two or three other units merging in with their convoys at one point. The battalion had Single Channel TACSAT in the battalion TOC, so the battalion leadership could hear the commanders sending reports to the division commander. Also, in the Division Main they had FBCB2, tracking blue forces on the battlefield. So, while communications with units within the battalion was very difficult, 1-3 ADA leadership knew where everyone was based on the FBCB2 picture in the D-main.

Initial reports of an ambush of the 507th Maintenance Company were received at 0932Z. The report listed six wounded and possibly twelve missing soldiers in the area of An Nasariyah.

A/1-3 ADA continued to provide direct support air defense coverage to 1BCT as it moved to and began to occupy OBJ RAIDERS. B/1-3 ADA continued to provide direct support air defense coverage to 2BCT as it moved to and cleared OBJ RAMS. 1/B/1-3 ADA continued to provide air defense coverage to TF 1-15 IN as it remained to assist 3-7 CAV in securing the LOCs vicinity As Samawah; the platoon worked autonomously, unable to communicate with the rest of the battalion to let them know that they were not able to link up with 2BCT and B/1-3 ADA immediately as per the original plan. C/1-3 ADA continued to provide direct support air defense coverage to 3-7 CAV as it secured the LOCs passing to the south of As Samawah. 3/C/1-3 ADA continued to provide security to 3BCT and the Highway 1 crossing site as the brigade conducted a forward passage of lines with TF TARAWA; the platoon worked autonomously from this point forward since it was unable to communicate with the rest of the battalion after the rest of the battery moved forward to linkup with 3-7 CAV. The commander, C/1-3 ADA took two Linebacker platoons plus a Sentinel radar and fueler and moved out with 2-69 AR west toward As Samawah to link up with 3/7 CAV in support of their feint inside the river valley. C/1-3 ADA convoyed for about twenty-four hours to get from An Nasariyah to As Samawah. 3/7 CAV's mission was to cross the river at As Samawah and then conduct a movement to contact north toward Al Hillah and the Medina Republican Guard Division south of Baghdad in order to get them to commit south, at which time 2BCT would attack into their northwestern flank. During the convoy to As Samawah, units began to realize that ambushes along the routes were going to be a significant friction point for the division.

2-69 AR received permission to go south along the southern route to As Samawah due to congestion along the route due to attacks on the convoy. CPT Smith, commander of C/1-3 ADA, knew as events were unfolding that on passage of 1BCT, 3/7 CAV was going to start crossing the bridge and that he had to stay on schedule in order to get to 3/7 CAV on time and provide protection. As a result, he started moving around the convoy and traveling down the side of the roads.

“We arrived at As Samawah. 3/7 CAV began their reconnaissance to find a way across the river. It was then we realized that resistance in As Samawah was much more significant than what we had been led to expect. As soon as we got to them, people started mortaring us.”- CPT Ruel Smith, Cdr, C/1-3 ADA, 3ID

Conclusion

The ability of the 32nd AAMDC leadership to balance between the strategic and tactical stance for TAMDC, with respect to Force Module deployments, was critical in order to provide adequate TAMDC protection at G-Day. The 32d AAMDC had to ensure it deployed sufficient forces to protect strategic assets in Kuwait, Bahrain, Qatar, Jordan, and Saudi Arabia while at the same time providing enough Patriot batteries to protect the maneuver forces in V Corps and I MEF. Assuming risk in certain southern areas away from the battle and manning Patriot “float” equipment with personnel who were still waiting on their equipment to arrive by sealift enabled the 32nd AAMDC to protect the force with less AMD resources than what was actually required.

CHAPTER IV - THE MARCH UP COUNTRY, 24 March - 2 April, 2003

AS SAMAWAH TO KARBALA

24 March, 2003

24 March: V Corps units secured OBJ RAIDERS and OBJ RAMS. 101st AA Division began transitioning FARP SHELL to a Forward Operating Base. 3BCT (3ID) is securing the ground lines of communication from LSA ADDER to OBJ RAMS. 1BCT (3ID) is blocking Highway 9 IOT isolate An Najaf from the north. 2BCT (3ID) attacks north to OBJ SPARTAN. 3-7 CAV secures As Samawah and prepares for a feint along Highway 8. 11th AHR is now located in OBJ RAMS. I MEF attacks north on the eastern flank of V Corps toward Ad Diwaniyah while 1st UK continues to guard the Rumaila oil fields and Umm Qasar. 1st MARDIV completes FPL with TF TARAWA.— obtained from the CMH "History of the Ground War" Brief

Patriot With the Maneuver Force

March 24 began the mother of all storms. Sustained winds of 10-25 knots and gusting to 45-50 knots continued until 27 March. Visibility for much of this period was only out to 600 meters and aviation flights were almost non-existent. In many instances, however, visibility was less than 100 meters. Rain and



The "perfect storm." Photo obtained from V Corps OIF History Brief

wind coated everything with a layer of red mud. The decisive maneuver phase of the ground war had begun ; maneuver forces were marching to Baghdad.

Under this phase, the 32d AAMDC continued to provide TAMDC coverage to U.S. Central Command's critical asset list and to the Coalition Forces Land Component Commander's (CFLCC) operational priorities. The command was to shift the priority of coverage forward into Iraq to protect key river-crossing sites, forward operating bases and logistical sites. During this phase the attack operations cell of the 32d AAMDC would continue to focus on ISR and offensive targeting to support the counter TBM campaign and destroy missiles and launchers before they were used.

A/1-3 ADA made contact with a Fedayeen and Al-Khut ambush, led by Iraqi Republican Guard Officers. During the engagement, a COLT from C/1 Cavalry Troop attached to A/1-3 ADA, received RPG fire in their M1114 HMMWV. PFC Gibbs, a Bradley Linebacker driver with complete disregard for himself and his own safety, drove forward to put his M6 Bradley between the COLT and the RPG fire. His crew engaged and destroyed the RPG team, which facilitated the COLT's ability to call for fire on enemy bunkers and recon teams along the access road into OBJ JENKINS. B/1-3 ADA continued to provide direct support air defense coverage to 2BCT vicinity OBJ RAMS. 1/B/1-3 ADA continued to provide air defense coverage to TF 1-15 IN as it remained to assist 3BCT in securing the LOCs vicinity As Samawah. While attached to Task Force 3-69 AR, SPC Saucier engaged and destroyed two enemy technical vehicles while clearing OBJ RAIDERS vicinity the An Najaf Escarpment.

A brief lull in missile launches ended at 1035Z with the launch of an Al Samoud missile from Qurnah, north of Al Basrah. The launch targeted Camps VIRGINIA and NEW JERSEY. This was intercepted by C/5-52 ADA with three GEM+ missiles. At 1342Z, an Ababil-100 was launched from north of Al Basrah toward Camp Doha, but the missile fell short and landed in the empty Kuwaiti desert without being intercepted, causing no damage.

The 2-43 ADA ICC arrived in Jalibah at 0820Z. C/2-43 ADA captured six EPWs in front of their position near An Nasariyah. They also located the Iraqi fighting positions, which contained fighting positions, a healthy supply of ammunition, and an assessed chemical storage with

significant potentially exploitable documentation.

The Fight for Objective Jenkins – A Great Day for SHORAD!

The 1-3 ADA TOC assumed its position vicinity AA X-RAY within OBJ RAMS. While traveling slowly through traffic on the Escarpment, the DTAC came under very ineffective and sporadic mortar fire but became separated; the ADCOORD section moved as a group forward through the halted traffic, escaped the enemy mortar fire, and moved autonomously to the preplanned site for the DTAC in OBJ RAIDERS. Due to communications restraints, the ADCOORD section assumed control of the air defense fight north of the Escarpment while the Battalion TOC retained control of all assets located south of the Escarpment.

A/1-3 ADA distinguished itself during the battle for OBJ JENKINS from 24-29 March 2003. 1BCT commander issued Captain Branson the tactical mission order to secure a bridge in the vicinity of the village of Al Kifal in order to enable the Brigade to continue their attack into Karbala. For this mission, in addition to his two Bradley Linebacker platoons, a Combat Observation Lasing Team (COLT), and a Long Range Acquisition System (LRAS) team. The brigade commander also placed a tank platoon from 3-69 AR in reserve. Just after midnight on 25 March 2003, Captain Branson's company team reached the service road leading to the bridge and immediately started receiving heavy RPG, small arms, and mortar fire from enemy positions well established in prepared defensive positions on the near side of the bridge. Captain Branson pulled his forces back to a rally point and called in artillery fire to suppress the enemy fire. He rallied his forces and continued the attack, only to receive additional heavy fire. For the next eight hours, Captain Branson maintained the momentum of the attack, calling for artillery fires on three separate occasions and requesting the commitment of the reserve tank platoon. However, a tank company was already on the way by order of the brigade commander and arrived at 0345Z the morning of 25 March 2003. In a last ditch effort to halt the unrelenting assault, the Iraqis attempted to blow the bridge. A portion of the bridge collapsed, but that did not stop the attack as the tank company commander and Captain Branson together continued the attack. The tank company commander ordered his tanks across the bridge and turned the tide of the battle. Following additional fire and maneuver, 1BCT forces secured the bridgehead, but fierce fighting continuing for the next 36 hours. Later that day, the remainder of TF 3-69 AR was committed to the fight. On 26 March 2003, TF 2-69 AR relieved TF 3-69 AR to continue the lodgment expansion on the far side of the bridgehead. Captain Branson and his company team were ultimately relieved of their mission on 29 March 2003.

The first time they halted and set up the battalion TOC was vicinity northwest of An Najaf.



CPT Charles Branson, Cdr, A/1-3 ADA (3ID)

“Once the sandstorm ended, when we were south of the Karbala Gap, we had our maneuver Brigades at OBJ RAIDERS and SPARTANS, first and second brigades, and our third brigade was strung out all the way from vicinity PL AUSTIN back down to As Samawah, securing the lines of communication for the division. At the same time, we started piecing together all the reports we were getting based on the types of intel we were receiving...I guess the original plan, the intel people thought the Iraqi army units in the south were going to capitulate, which they did not do, and uh, it kind of made sense to all of us seeing the way the enemy was fighting that the Saddam Fedayeen was really in charge in the south because the Iraqi soldiers,

if they were even soldiers, were pretty much on suicide missions, attacking armor with automatic rifles and RPGs, with very minimal if any field artillery or air support.” – CPT Mike Melito, Assistant Battalion S-3, 1-3 ADA, 3ID

3/C/1-3 ADA continued to provide air defense protection to 3BCT as it secured the LOCs vicinity As Samawah. As Samawah was just too hot to go through. The bridge was right in the middle of town between the soccer stadium and the Iraqi military officer's club and the whole place was occupied with Fedayeen, equipped with multiple types of weapons. So, C/1-1 ADA continued up the Euphrates to cross at OBJ FLOYDS, 40km or so west of As Samawah, in order to isolate An Najaf. The concept was to have a CAV troop each to the northwest blocking, to the northeast blocking and to the south blocking.

The commander, C/1-3 ADA told the 3/7 CAV commander that he had two M6 Linebacker platoons and could best provide coverage of the squadron's mission with troop in the northwest and northeast.

25 March, 2003

25 March: V Corps' 3ID secured objectives west of An Najaf and then attacked east of the city IOT engage and destroy the 14th Brigade of the Medina Division. 3-7 CAV advanced up Highway 8, encountering stiff resistance from paramilitary forces south of Al Hillah. 101st AA Division continued to transition FARP SHELL into a FOB. I MEF continued to attack north on the eastern flank of V Corps toward Ad Diwaniyah. The priority for 3ID was resupply and refit after the long road march, but the resupply vehicles had a difficult time traveling along the narrow route with poor visibility and the enemy attempting to interdict our LOCs. As the resupply effort progressed slowly, the division also attempted to isolate pockets of resistance from reinforcement from the north. 3-7 CAV crossed the Euphrates vicinity OBJ FLOYD and moved to the east of An Najaf to set up blocking positions. Attacked through three major "L" ambushes in the fiercest fighting to date. Hundreds of the enemy were killed while the squadron had no casualties though two Abrams and one Bradley were destroyed.

1BCT (3ID) set up a blocking position vicinity OBJ JENKINS to isolate Al Hillah from reinforcement from the north TF 2-69 AR led the attack across the river vicinity OBJ JENKINS. The brigade destroyed numerous attacks by Fedayeen dismounts and technical vehicles. CAS flew 683 sorties in support of the units in contact. 3BCT continued to secure the LOCs leading from our rear boundary to OBJ RAMS. 2BCT attempted to move up to OBJ SPARTANS north of the Escarpment, but elements of 1BCT still blocked the way as traffic jams became a huge issue for the division. The Air Force continued to try and shape the Medina Division, but the poor weather made it very difficult, if not impossible; priority of effort is 10th Armor Brigade and 14th Mechanized Brigade, both of the Medina Division... obtained from the CMH "History of the Ground War" Brief

support of 1BCT. The battery repelled a number of attacks by dismounted and technical vehicles that occurred roughly every fifteen minutes until twenty technical vehicles were destroyed to their front. Even after TF 2-69 AR was tasked to relieve TF 3-69 AR, the incoming task force commander requested that the battery remain and continue to block from their position. The battery continued to perform the assigned tactical tasks admirably even with serious Class I/III supply issues. B/1-3 ADA continued to provide direct support air defense coverage to 2BCT as it moved to and closed on OBJ SPARTANS. The battery continued to attempt to recover two vehicles left along the road march up to OBJ RAMS, an M88 and the M1098, but without success. During the movement to An Najaf, CPT Smith was traveling in formation with the squadron support column. When the convoy began receiving heavy small arms and mortar fire, the convoy commander called on CPT Smith for immediate support, since his was one of

At 1010Z an Iraqi weather balloon was observed near Al Basrah indicating probable TBM launch. The Iraqi Army used these balloons to determine weather conditions at varying atmospheric levels; the Iraqi tactical ballistic missiles were adversely affected by high winds or extreme weather conditions. Shortly thereafter, at 1248Z, Iraqi forces fired an Ababil-100 from west of Al Basrah. It was headed toward Camp COMMANDO in northern Kuwait, and was intercepted by Kuwaiti Firing Battery 5. Three separate Patriot batteries attempted to shoot it down: C/6-52 ADA, B/2-1 ADA, and Kuwaiti Patriot Battery 5.

All 31st ADA brigade units were now at FARP SHELL with the brigade commander. Some Fedayeen Saddam forces, a clear threat to air defense units, were spotted near the 31st ADA assembly area. About this time the 108th ADA brigade Assault Command Post conduct a tactical move to Jalibah and set up operations with the I MEF Main Command Post.

A/1-3 ADA continued to provide direct support air defense coverage to 1BCT. The battery continued to man blocking positions north of OBJ JENKINS in



Whether pre-existing or Engineer-laid, river crossing sites were a critical asset to be secured and protected during the drive to Baghdad.

only two armored vehicles in the column. The convoy commander directed CPT Smith to destroy an enemy RPG team and other targets firing on the convoy. On several occasions during the movement, CPT Smith calmly but swiftly positioned his Bradley forward and destroyed all enemy forces that threatened the soft-skinned vehicles in the convoy. Many soldiers in the convoy credited CPT Smith with saving them. C/1-3 ADA continued to provide direct support air defense coverage to 3-7 CAV while it moved across OBJ FLOYD and blocked enemy reinforcements into An Najaf. 3/C/1-3 ADA (A) continued to provide air defense coverage to 3BCT as it secures the division's LOCs.

At the end of the Squadron's first long movement, 1LT Elder single-handedly initiated and supervised the rescue of a trapped HEMMT fueler driver whose vehicle was on its side in the mud. Under constant fire and without regard for his own safety, Lieutenant Elder persevered to the limit of his personal stamina before recruiting another tracked vehicle crew and squads of engineers to help him pull the stuck vehicle free enough to extract the injured driver. Returning immediately to full command of his Bradley, Lieutenant Elder continued to fire and maneuver, eventually securing a blocking position over the Squadron's crossing site into An Najaf, denying the enemy use of the bridge. The lethality of Lieutenant Elder's air defense Bradley crew in ground engagement mode greatly multiplied the combat power of A Troop. At the same time, Sergeant Dykes, with total disregard for his own safety, immediately took control of his Bradley when his commander dismounted on the near side of the bridge and provided security for successful rescue operations while still in contact, simultaneously controlling his platoon's fight over the radio. His innate ability to take charge in the absence of leadership throughout the battle prevented the occurrence of any friendly casualties and was instrumental in the safe evacuation of the driver.

SHORAD – A Combat Multiplier for the Maneuver Commander

Eventually C/1-3 ADA reached the area vic An Najaf with platoons supporting the CAV Troop blocking positions. An Najaf was really a transition point for SHORAD from air defense missions to almost strictly non-traditional air defense missions, the most recurring being blocking positions trying to keep Republican Guard forces from entering An Najaf.

“The Republican Guard soldiers found that more effective against the U.S. Army than trying to mount up on their BMPs and come at us, was to establish company



CPT Ruel Smith,
Cdr, C/1-3 ADA
(3ID)



The Bradley Linebacker proved itself as a combat multiplier for the maneuver commander during OIF.

strong points around the river, around key terrain that was river-crossing oriented and try to harass and attempt to attrit U.S. forces who crossed the river. So, they were reinforcing An Najaf with dismounted guys who had gotten off their tanks and BMPs, put them on buses and sent them down to fight as dismounts at An Najaf. I know of at least 2 buses who pulled up to a blocking position where 1LT Elder and his Linebacker section were, and they were engaged and destroyed by 7.62 coax and 25mm HE.” – CPT Ruel Smith, Cdr, C/1-3 ADA, 3ID

“The one thing that the Linebacker has brought to the heavy division is the ability to free up their Bradley assets and tank assets; instead of collocating a conventional MANPADS

Stinger team with a Stinger rack on the back and an M-16. Instead of having to collocate a maneuver Bradley next to that or another infantry unit to provide additional ground security on an asset, all you have to do is put a Linebacker there or an air defense Bradley and you could get air coverage and ground coverage with the same asset. That was one of the great successes the air defense branch has had with putting the Linebacker on the battlefield in the heavy divisions. Our soldiers do armored vehicle

recognition just like the infantry and the tankers do, and so we had all those crew skill; we had already equipped ourselves with them; we do the same gunnery they do essentially; we incorporate their ground gunnery tables into ours; we use the same UCFT essentially. So we had the same gunnery skills and we had the same confidence in our system they did, so I was not at all concerned about our ability to engage targets.” – LTC Mark Garrell, Cdr, 1-3 ADA, 3ID

26 March, 2003

26 March: V Corps consolidated key terrain previously seized. 1BCT (3ID) is securing the lines of communication from LSA ADDER to OBJ RAMS. 1BCT (3ID) crossed the Euphrates River to isolate An Najaf from the north. The remainder of 1BCT remains near OBJ RAIDERS. 2BCT (3ID) remains at OBJ SPARTAN. 3BCT (3ID) continues to secure lines of communication from As Samawah to OBJ RAMS. 3-7 CAV continues to isolate the Euphrates River area and is reinforced by 1BCT (3ID). By early morning, the 1st and 2nd BCTs of 3ID were in attack positions southwest of Baghdad. The division established its Tactical Operations Center (TOC) at OBJ RAMS. 173rd Airborne Brigade jumps into northern Iraq. 82nd Airborne becomes OPCON to V Corps. I MEF continued its progress toward Baghdad along Highway 6 from the Southeast. 1st MARDIV continued its attack up Route 1. TF TARAWA continues to hold the An Nasariyah area and critical river crossings there. – obtained from the CMH “History of the Ground War” Brief

An Najaf and LSA BUSHMASTER

The dust storms from the previous day remained in the area of operations. Along with rains, they had created a hazy-humid condition in which to fight. The maximum winds reached sixty miles an hour. Units were having significant problems moving supplies forward. Beside the hazard of attack by Iraqi regular army or Fedayeen soldiers, there were the hazards of dust storms, poor visibility, heat overwhelming engine coolant systems, and the poor or nonexistent road systems. A major dust storm enveloped all of Iraq, and all V Corps units were ordered to halt movement and dig in. It was amazing that any supplies moved forward at all, much less with

the quantity and speed to supply the large army that advanced into Iraq with unsurpassed speed.

At 1127Z another weather balloon was launched near Al Basrah. Later, at 1658Z, an Ababil-100 was launched from a position north of Al Basrah. This missile blew up shortly after launch, though without causing damage to the surrounding area in Iraq. The TBM flew up into the air, self-destructed and came back down near the launch point.

C/6-52 ADA and D/5-52 ADA delayed their movements and relief-in-place. The brigade FRAGO 33 addressed the RIP as well as the receipt of E/1-1 ADA by the brigade. At 1509Z, E/5-52 ADA started its move from OBJ RAMS to OBJ SPARTANS, accompanied by the 5-52 ADA battalion commander and the 1-3 ADA battalion Assault CP for protection. In addition, D/3-43 ADA equipment and personnel arrived at the Port of Ash Shuwaybah.

At 1250Z, an Air Force F-16 assumed that a radar signature detected by his aircraft was an enemy air defense radar, and he fired a HARM missile at the ground radar. The radar belonged to E/5-52 ADA, located at FARP SHELL. The 125-pound tungsten steel warhead destroyed the radar.

The 108th ADA brigade received FRAGO 5 to 32d AAMDC OPORD 03-0201. This order directed the brigade to take operational control of D/3-43 ADA and C/6-52 ADA in order to provide additional Patriot coverage of the Tallil Airfield and LSA ADDER. Finally, the brigade was directed to receive Patriot personnel from A/3-2 ADA, whose equipment had not yet arrived in theater, to man shortstop equipment that B/2-43 ADA had vicinity Umm Qasar. This enabled B/2-43 ADA to go pick up its own equipment at the port, which had just arrived and prepare to assume another mission. The brigade Assault CP arrived at Jalibah prepared to displace next to An Numiniyah.

1-3 ADA Assault CP after spending the previous day inspecting the air defenders north of the Escarpment, returned to the battalion TOC at OBJ RAMS. At 1509Z, the Assault CP moved to provide direct fire protection to E/5-52 ADA as they moved to their new position vicinity OBJ SPARTANS. During their movement forward, a Patriot launcher got stuck in the soft sand. The battalion commander ensured there was ground security with the stuck launcher, moved the lead elements forward, linked them with CPT Jeff Zanelotti, the B/1-3 ADA battery commander, for emplacement, and then returned to pull the stuck launcher out with his Bradley. It was a great example of air defenders helping air defenders.

“At this point I departed north with the battalion commander, battalion S-3 and the battalion’s combat assault team, while the battalion TOC remained vicinity An Najaf. It was then that we realized how much ground combat the Air Defense batteries had been involved in, especially A/1-3 ADA at a place called OBJ MURRAY, north of An Najaf. Somehow the Air Defense battery, if not a platoon plus, got tasked to establish a blocking position on the west side of the bridge that just happened to be the bridge the Iraqis tried to counterattack into the RAIDER brigade’s flank...from what we were told, it was pretty intense; they were being attacked by Iraqis on any type of vehicle that could carry them like Greyhound buses full of soldiers, dump trucks with soldiers in the back with rifles and RPGs, anything that would move their dismounts forward on the battlefield.” – CPT Mike Melito, Assistant Battalion S-3, 1-3 ADA, 3ID



Air Defenders helping Air Defenders

A/1-3 ADA continued to provide direct support air defense coverage to 1BCT. The Linebacker platoons continued to occupy blocking positions along Highway 9 north of OBJ JENKINS; the platoons were finally resupplied required Class III. B/1-3 ADA continued to provide direct support air defense coverage to 2BCT as it began its move north to OBJ SPARTANS. 2/B/1-3 ADA (L) remained with TF 2-70 AR and provided air defense coverage to the task force as it assumed blocking positions southeast of An Najaf. Within ten minutes of assuming the blocking position from 3-7 CAV, the task force was ambushed by the enemy using small arms, RPGs, and mortars. 2/2/B/1-3 ADA (L) was responsible for the destruction of no fewer than seven enemy vehicles and 24 enemy soldiers. The platoon also assisted the battalion Assault CP in escorting and emplacing E/5-52 ADA in its new position to the rear of OBJ SPARTANS. C/1-3 ADA moved with 3-7 CAV to OBJ RAMS to rearm and resupply.

27 March, 2003

At 0831Z, an Ababil-100 was launched from an area north of Al Basrah at Camp Doha. Later analysis determined that this unguided Iraqi missile was a “million dollar” shot. If not intercepted, it would have been a direct hit on the CFLCC headquarters. This missile was engaged by Kuwaiti Firing Battery 3 and

27 March: CFLCC forces attack to within 55 miles of Baghdad. 3ID reported contact with paramilitary forces using mechanized, wheeled, and civilian vehicles. 1BCT set in OBJ RAIDERS; enemy contact throughout the day. 2BCT has been in contact throughout the day. The brigade is currently repositioning for anticipated enemy attack, has established defensive positions and the division has provided attack aviation OPCON in order to support future combat operations. 3BCT secures OBJ RAMS with one TF and secures LOCs with remainder of brigade. They encountered limited contact Vic As Samawah. 3/7 CAV has conducted relief in place and has withdrawn west to OBJ RAMS. This allowed to rearm, refit, refuel, and reorganize.
 – obtained from the CMH “History of the Ground War” Brief

by C/6-52 ADA with two GEM missiles each, within five miles from Camp Doha. Even though intercepted, debris from the TBM continued on its trajectory and landed across Camp Doha. Had this been a chemical warhead, a small amount of the chemical agent possibly could have contaminated part of Camp Doha. Fortunately, this was neither a chemical nor a biological weapon.

“During the BUA, they’re giving the Battle Update Assessment Brief, sure enough, you can pick it up on AMDWS, AC-10 got early warning from AEGIS...there’s another Ababil coming right at us, impact point Doha. The CG, I’m talking about LTG McKiernan, said ‘everybody put their mask on’ and they sat there and they continued with the BUA. There was so much confidence in this weapon system that nobody moved. Then suddenly you heard the walls rumble and you heard the sound of those missiles take off, and there it went, two more missiles in the air. Then you heard a loud explosion. This time pieces of metal actually fell on the roof of our HQs. That was a high-five moment.” – COL
 (P) Anderson, CofS, 32d AAMDC



COL Charles
Anderson, CoS,
32d AAMDC.

Again, at 2056Z, another TBM was launched. This time it was fired from northern Iraq and also impacted in northern Iraq. Launched from southwest of Kirkuk, this missile (either an Ababil-100 or FROG-7) was headed in the general direction of a Kurdish enclave in northern Iraq. No Patriots were in range of this missile. It impacted in a deserted area and did no damage. This marked the first use of a TBM against a target inside Iraq, although their use had been expected against Coalition forces at the river crossing sites in southern Iraq.

A New Corps Rear Boundary

BG Bromberg and COL Seward met at the JTOC in Jalibah. The topic of discussion was the fluid battlefield and the flexibility required by air defenders to adapt to changes within the battle space. The revised CFLCC plan called for the Kuwaiti-Iraqi border to become the new corps rear boundary. This made anything still in Kuwait an EAC asset and therefore part of 11th ADA brigade. For this reason, when C/6-52 ADA, and D/3-43 ADA arrived at the SPOD, 11th ADA brigade would RSOI them and push them forward. The 108th ADA brigade would then take operational control of the new units and move them into place at Umm Qasar. From 27 March to 23 April, 108th ADA brigade exercised operational control over TF ADDER, consisting of HHB/3-43 ADA (-), D/3-43 ADA, and C/6-52 ADA.



A Patriot battery stands watch.

The brigade also had control over one platoon of Marine Avengers from the 3rd LAAD battalion and was integrated with the 1st UK Division's High Velocity Missile and Rapier battalions as well.

Given the I MEF commanders demands to have more coverage throughout the brigade's area, TF 3-43 ADA was going to join the 108th ADA brigade and was most likely to assume operational control of B/2-43 ADA as well, which had been an EAC mission at Umm Qasar until now. The plan that COL Seward and BG Bromberg developed called for TF 2-43 ADA to handle areas north of the Euphrates and TF 3-43 ADA to cover assets south of the Euphrates. This represented a very large challenge to the 108th ADA brigade, not only in terms of command and control, but especially in regards to communications and logistics. As a result, TF 3-43 ADA (-), consisting of D/3-43 ADA and C/6-52 ADA, became OPCON to 108th ADA brigade. Their mission was to provide TBM protection to Tallil Airfield and LSA ADDER, both in the V Corps area of operations. This was historic because the 108th ADA brigade was commanding and controlling Air and Missile Defense operations in both the V Corps and I MEF areas of operation.

A/5-52 ADA and C/5-52 ADA, from 31st ADA brigade, were located in FARP SHELL. E/5-52 ADA was providing coverage for OBJ SPARTAN and OBJ RAIDERS. The JTOC, HHB, and B/5-52 ADA were still located at OBJ RAMS.



1-3 ADA (3ID) moves deeper into Iraq

A/1-3 ADA continued to provide direct support air defense coverage to 1BCT. The two Linebacker platoons, led by the battery commander, continued to defend the blocking positions along Highway 9 north of OBJ JENKINS. The battery discovered a weapons cache, including mortars, and reported it to EOD for destruction. B/1-3 ADA continued to provide direct support air defense coverage to 2BCT. 1/B/1-3 ADA (L) finally completed its move with TF 1-15 IN to OBJ RAMS and linked up with B/1-3 ADA to prepare to support future operations. C/1-3 ADA continued to conduct rearm, refit, and resupply operations with 3-7 CAV vicinity OBJ RAMS.

28 March, 2003

LTC Harry Cohen, the 3-43 ADA Battalion Commander, traveled to the JTOC at Jalibah where he met with BG Bromberg, COL Seward, and LTC Burke. They discussed movement and locations for the newly energized Patriot task force in support of the Marine offensive. C/2-43 ADA would cover Qalat Sikkar if the improvements were completed on the airstrip. D/3-43 ADA provided coverage to the area C/2-43 ADA formerly covered, near the Iraqi-Kuwaiti border and the ASP. That mission would then be assumed by C/6-52 ADA. Shortly after, D/5-52 ADA would conduct a relief-in-place for that same mission.

28 March: The division entered into the final stages of rearming and resupplying in preparation for our future attack northeast. Elements of 2BCT captured a brigade commander who was responsible for a portion of the An Najaf defense. Air Force assets identified a string of sixteen tankers staged roughly parallel of our proposed route of march during the upcoming attack. In order to remove the perceived threat of the enemy using these tankers to spread a chemical contamination across our attacking force, it was decided to destroy them from the air. Between 1706Z and 2030Z, 101st AA Division conducted another AH-64 deep attack against 14 Mechanized Brigade of the Medina Division vicinity the Karbala Gap. – obtained from the CMH "History of the Ground War" Brief



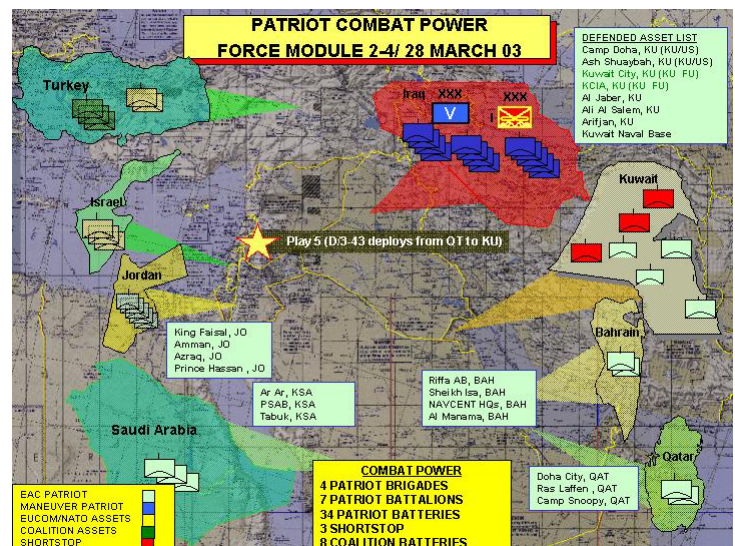
2LT John Brock,
Platoon Leader,
2/B/2-44 ADA

2/B/2-44 ADA was in DS to 502 IN (Widowmakers). We crossed LD on 28 Mar 03. We had all Avengers and .50 cal on the last 2 ships, so they did not arrive until just prior to LD. We conducted some of our test fires while we were rolling out. My platoon was used primarily for GAC security early on especially at night because of our FLIR radar. My Task Force placed my Avengers at the front and rear of all convoys. Our initial convoy to the first objective was about 40 hours long with only one 3-hour break. We moved directly to TAA STRIKE to provide security of some key bridge crossings. My platoon was actually very key at night because there were a lot of things the infantry could not see, and they needed our Avenger with its FLIR capability to see into those areas. We dominated the night. At night, we were the cornerstone of the infantry's security plan." – 2LT John Brock, Platoon

Force Module 2-4 brought the rest of 6-52 ADA's equipment from Germany. This increased the number of U.S. Patriot batteries in the CENTCOM AOR to 35. These units moved north to support V Corps in Iraq under the command and control of 31st ADA brigade. D/3-43 ADA and HHB/3-43 (-) relocated from Qatar to Kuwait and were assigned to 108th ADA brigade. In addition, A/3-2 ADA took control of an additional set of shortstop equipment increasing the number of shortstops at use in the theater to 3 total.

The 11th ADA brigade continued RSOI on five different batteries and one battalion headquarters, all coming from three different brigades. This was accomplished through close coordination of the Brigade HQs and the subordinate battalion, TF 2-1 ADA. TF 2-1 ADA developed the model for RSOI operations that became the standard for all PATRIOT units deploying into Theater. The 11th ADA brigade also focused on the download of the USNS Watkins, the receipt of D/3-43 ADA personnel and equipment, and the oversight of upcoming RIP operations between C/6-52 ADA and D/5-52 ADA at Camp Doha. B/2-43 ADA established a shortstop mission at the Port of Umm Qasr, Iraq. A/3-2 ADA was ordered to conduct a RIP with B/2-43 ADA.

D/3-43 ADA passengers and equipment arrived at the Sea Port of Debarkation (SPOD). They conducted RIP operations with C/6-52 ADA instead of D/5-52 ADA. Additionally, the 100-percent download of C and D/5-52 ADA equipment occurred. 11th ADA brigade FRAGO 35 changed RIP of C/6-52 ADA with D/3-43 ADA. As a result of that change, multiple missile transfers occurred, as well as missile cross-leveling across the Task Force. C/6-52 ADA was OPCON to the 108th ADA brigade. D/3-43 ADA was scheduled to move into Iraq. D/5-52 ADA was scheduled to leave TAA THUNDER and RIP with D/3-43 ADA. C/5-52 ADA remained at Camp NEW JERSEY



1-3 ADA received reports of the Fedayeen paraglider flying to the south of OBJ RAMS, elements from 1/D/1-3 ADA covering the Aviation Brigade moved to intercept and destroy the target. The Avengers tracked the target for a considerable amount of time, but they had to wait until they received permission to fire since all SHORAD elements were at "Weapons Hold." Once the battalion received permission to fire, the paraglider had moved off, landed, and had disappeared. The battalion then sent a request to the

Aviation Brigade to send some aircraft to see if they could locate the landing site. The Apaches discovered a large tent, but no enemy were seen and the Apaches did not engage.

Once the 101st AA Division established its FOB, operations transitioned to deep attacks and urban operations to clear cities of paramilitary forces attacking units traveling along the corps MSRs and combat support and combat service support units positioned along the routes. During this phase of the war, 2-44 ADA transitioned to primarily a ground defense role with Avengers integrated into company teams and Delta Companies as a mounted precision .50 cal weapon system. The ability of the Forward

Looking Infrared Radar (FLIR) helped make the Avenger the primary weapon system for night defensive and overwatch positions. The Avenger weapon system was also used to conduct TCPs. In addition, the battalion was also directed to provide security for Patriot units and acted as convoy escorts.

29 March, 2003

The previous night at 2250Z, a Seersucker cruise missile was launched from the Al Faw peninsula. It struck a pier outside Kuwait City, causing some damage to the Sharq Souk shopping mall and injuring two civilians. This spread fear amongst the civilian population of Kuwait and concern in the coalition rear areas. It brought an immediate joint and coalition response: coalition forces moved aggressively into likely launch sites on the Al Faw peninsula to prevent their use for launches, and Kuwait deployed Amoun batteries within their country to interdict any further missiles launched from Al Faw. These batteries remained in place for the remainder of the war. Great Britain also positioned the HMS York in shallow waters off Kuwait City with the task of intercepting cruise missiles.

29 March: V Corps, the main effort, secured key terrain in order to isolate An Najaf and prevent Iraqi resupply, reinforcement and observation of coalition movement. V Corps units conducted aggressive counter-recon operations and established movement control measures along the main supply routes in order to keep lines of communication open and critical combat support nodes secure. I MEF, the supporting effort, continued shaping operations against the Baghdad Division, seized key terrain and isolated Iraqi forces in An Nasariyah. 3ID continued to regenerate combat power south of Karbala in preparation for future offensive operations. Corps assets moved forward and relieved the division of some of its LOC security and blocking missions in order to free the division to prepare for the attack against the Medina Division. 1BCT continued to conduct recon in force in zone north of OBJ RAIDERS. 2BCT cleared quarries north of OBJ SPARTAN with light contact and secured a new attack position. 3BCT attacks along Highway 28 IOT prevent enemy attacks vicinity Karbala into the division rear area. 3-7 CAV screens north and west of the Division along PL DOVER. 101st AA Division 1BCT attacked the southwest portion of An Najaf resulting in the discovery of large arms cache. 2BCT secured OBJ JENKINS and conducted search and attacks northwest of An Najaf, resulting in the discovery of numerous arms caches and pieces of military equipment. 3BCT continues to secure FARP EXXON and FARP SHELL. The 82nd Airborne Division secures positions east, south and west of As Samawah and continues to attack to destroy RDS forces. The 82nd Airborne Division also closed on LSA ADDER with 29 chinks. TF TARAWA (I MEF) continued the destruction of enemy forces vicinity An Nasariyah. – obtained from the CMH "History of the Ground War" Brief

Later in the day, five weather balloons were launched, a possible indication of TBM activity. At 1500Z, a FROG-7 was launched from northwest Al Basrah toward northern Kuwait. This rocket likely was aimed at a breach in the berm between Kuwait and Iraq, one of the locations used by coalition tactical formations to cross from Kuwait into Iraq. In any event, this rocket was not intercepted and did no damage when it landed in empty desert.

1/A/1-3 ADA and 2/A/1-3 ADA remain in blocking positions vicinity OBJ JENKINS for most of the day; they were finally relieved at 1435Z and moved back to OBJ RAIDERS to refit

The 1-3 ADA battalion commander, LTC Mark Garrell and the battalion S-3, MAJ Dan Garcia brought the battalion Assault CP, which consisted of two M2A2 Bradley vehicles and 1 HMMWV, back to the battalion TOC location to conduct coordination and resupply. After meeting the battalion commander and S-3 it was decided that CPT Melito would deploy with the Assault CP forward on the battlefield to assist with battle tracking and coordination for the division's fight at the Karbala Gap. For the next few days CPT Melito traveled in the back of the battalion commander's Bradley Fighting Vehicle assisting him by monitoring FM and TACSAT radios, taking reports and coordinating the repositioning and security of Patriot units forward on the battlefield.

and rearm. Before being relieved, the battery destroyed two technical vehicles vicinity OBJ JENKINS at 0912Z. The battery also destroyed three other vehicles and five personnel trying to run their blockade along Highway 9. The total BDA for the battery during the entire mission was 20 technical vehicles destroyed and over 200 Iraqi dismounts as well as the destruction of a number of enemy weapon's caches. Elements of B/1-3 ADA returned to OBJ SPARTANS and battery control once 2BCT was relieved of its blocking mission east of the river. The battery continued to refit and rearm in preparation for the upcoming attack north.

Attack Operations

Attack Operations contributed to the counter-TBM fight in three main ways. First, the 32nd AAMDC participated in the Information Operations (IO) fight. It was a new approach for the Attack Operations (AO) cell and difficult to assess the impact. However, it appears, other than the unit along Highway 6, the Iraqis were clearly hesitant to conduct launch operations from the beginning of the war. Second, the Attack Operations cell acted as a major player in the nomination and management of TBM ATO targets. The initial target list was finalized in October 2002, but due to the dynamics of the planning process, targets were continually dropped from the list and had to be re-nominated. Further, problems with restricted targets had to be addressed and some newly developed targets added to the list. Also, shortly before the war, the target lists all had to be reworked to ensure the most important targets were struck and lower priority targets re-nominated to later ATOs. Third, 32nd AAMDC was directly involved in the Time Sensitive Targeting (TST) process. Although, the ISARC nominated most of the TBM targets --- it did not manage them. The Attack Operations cell ensured that TBM-related targets were serviced by conducting face-to-face coordination with the TST cell personnel. 32nd AAMDC often used non-traditional methods and integrated these targets with other targets or coordinated with ground component liaisons to strike targets inside of the Fire Support Coordination Line (FSCL). In addition, 32d AAMDC took responsibility for the counter-TBM fight along Highway 6 coordinating with the MARLO to strike targets in a timely manner.



MAJ Eric Howard studies a FROG captured by his SF teams and Kurdish units in Northern Iraq

“The Passive Defense cell also played a critical role in Attack Operations. We also had ‘CHAT’ and ‘CHAT’ worked exceptionally well in Attack Operations. I was personally involved in three kills on TELs. The Higgins would send voice early warning, and over ‘CHAT’ they would provide warning, and on ‘CHAT’ they would provide the launch points for the Iraqi Ababils and Al Samouds. We would turn that around and in a matter of seconds provide that information to our Attack Operations cell within the CFACC. The CFACC in turn would coordinate that as a TST, and we would be listening to the AC-1 and AC-10 nets, and we would know that the information that was provided by Higgins and relayed by us killed three TELs, at least pilot reports. As a matter of fact, when you look at this in a Joint aspect it is really outstanding. I mean, the Navy AEGIS detected the missile, provided that information to the Army, which in turn warned Army forces; the Army in turn relayed that information to the CAOC in PSAB, which in turn coordinated that air strike to get steel on target, which, for the most part, ended up being Marine Air out of the III MAW because most of the launches occurred north of Basrah, which was in the Marine sector. So, within a matter of minutes, we had information flow for Attack Operations going from the Navy, to the Army, to the Air Force, to the Marines, and putting steel on target and killing things, which was outstanding!” – LTC Hartley, Passive Defense OIC, 32d AAMDC

Throughout the war, 32nd AAMDC Attack Operations cell was very involved in the ATO process. The cell nominated and prioritized TBM-related targets initially destroying storage and garrison facilities and

“The 32d AAMDC manned Attack Operations, Current Operations and Intelligence Cells in the Combined Air Force Operations Center located at Prince Sultan Air Base. Using launch data provided to us by AEGIS, the Intel cell developed a detailed analysis of the enemy’s launch pattern. We had six missiles launched at Kuwait from Highway 6 north of Basrah. Potential future launch sites were determined along with the sites suitable for the enemy to hide his equipment between missions. In addition, the Intel cell looked at the times the missiles were being launched and what we saw were two 4-hour periods between 0900Z to 1300Z and 2000Z to 0000Z. So now we had two windows of vulnerability and we knew where he was firing from. We went to the CFACC and briefed him. After the briefing, LtGen Mosely took us into the room where the UAVs were being controlled and ordered that, during the windows of vulnerability, our Attack Operations Cell would have priority on an armed Predator. That Predator flew up and down Highway 6 looking for enemy missiles. A Predator doesn’t see everything and it flies relatively slow, 70-80 MPH, but it was flying where we needed it. We had another launch. AEGIS picked it up and the Current Operations Cell initiated early warning to the force. The missile was successfully engaged by Kuwaiti Patriot. The next day, Predator, flying our assigned route, found another TEL in the general vicinity where the previous day’s launch had occurred. This time we found the TEL before the enemy could fire their missiles. The Predator engaged with a Hellfire missile and took it out. We know it was ready to fire because it was manned and we saw a secondary explosion, which means the rocket was fueled. That was the last time we saw a manned TEL being engaged. The rest of the time they were abandoned. So basically, we destroyed his will to fight. So there you have it, all the pillars of Theater Missile Defense coming together to defeat the enemy.” – COL Carney, G3 Operations, 32d AAMDC

attacking known TBM field locations. These targets required extensive management because the ATO was continually changing due to the large amount of support required for ground operations targets. TBM targets often fell off the ATO at the last minute, even during execution, and the Attack Operations cell had to re-nominate these targets to later ATOs. The constantly changing ATO sometimes caused “creative nomination procedures” leading to coordination directly with the TLAM LNO to get targets struck inside of the normal ATO cycle. After the initial strikes the Attack Operations cell began to re-attack lightly damaged targets and to destroy infrastructure. A great deal of effort was placed on re-attack as the cell found that Iraqi TBM forces continued to use lightly damaged facilities after the initial strikes. TSTs in the Baghdad areas were difficult to attack in a timely manner since the needed force package was quite large due to

requirements for suppression of enemy air defense (SEAD). Often during this phase, 32nd AAMDC found that the only ways to attack targets was either to process them on the ATO providing last minute location updates to attack equipment or to watch the TST process closely and “hitchhike” on a large package that had been assembled for another target. Most of the Baghdad area TSTs were attacked in this manner.

The Attack Operations cell’s most intensive counter-TBM fight took place along Highway 6 between Basra and Al Amarah in Southeastern Iraq. An Ababil-100 unit was operating along Highway 6. During the first week, 32nd AAMDC coordinated numerous missions which resulted in destroying two launchers (post-launch) --- a first in the history of counter-TBM operations. This operating area was not covered by the attack operations system set up before the war since it was inside the CFLCC boundary. This resulted in the development of some unusual procedures to counter Iraqi tactics. The Attack Operations cell coordinated directly with the individuals controlling the assets to provide traditional and non-traditional ISR and attack assets to execute this fight. The 32d AAMDC had most of its success coordinating directly with the Marine Aviation Liaison Officer (MARLO) to attack targets outside the normal TST system. In addition, they nominated kill boxes for kill box interdiction and coordinated for the predator to make its return trips down Highway 6 to provide daily surveillance of the area. These methods were extremely effective and immediately disrupted the Iraqi launch tempo. After disrupting and destroying the first two night launches the Iraqis never fired again at night. In addition the Iraqi launch tempo never regained the level of the first 24 hours.

30 March, 2003

In response to the Seersucker missile attack on Kuwait City on 29 March, the Kuwaitis established a Missile Engagement Zone (MEZ) around the air approaches to Kuwait City with Amoun Batteries. This move did not affect the United States Patriot batteries, since the Kuwaitis were able to fill the gaps in the coverage against these cruise missiles utilizing their SHORAD systems.

30 March: 3ID began the offensive against the Medina Division vicinity OBJ SPARTAN and the eventual attack to Baghdad. 3-7 CAV established a screen along the division's western flank. 2BCT attacked to the north and east to clear the relatively restrictive terrain and rock quarries along the division's front; the enemy destroyed numerous artillery, armor, and infantry units in the area. 101st AA Division continues offensive operations vicinity An Najaf. The 82nd Airborne Division continues offensive operations vicinity As Samawah. III MAF (I MEF) continues shaping operations against the Baghdad Republican Guard Division vicinity Al-Kut and Al Nida Republic Guard Division vicinity Baghdad. -- obtained from the CMH "History of the Ground War" Brief



Patriot batteries were out front protecting both V Corps and I MEF maneuver forces

31st ADA brigade assets were dispersed throughout the battlefield: 5-52 ADA TOC at LSA BUSHMASTER; A/5-52 ADA at FARP SHELL; B/5-52 ADA at LSA BUSHMASTER; C/2-1 at LSA BUSHMASTER; E/5-52 ADA at OBJ RAMS; 6-52 ADA TOC, A/6-52 ADA, B/6-52 ADA, D/6-52 ADA and E/6-52 ADA at Camp VIRGINIA, preparing to move on 1 April along with the brigade’s main TOC.

The 108th ADA brigade worked a revision with the addition of the new units to the Brigade coverage. The discussions concluded that soldiers from A/3-2 ADA would not be replaced in the brigade after completing the mission with B/2-43 ADA's shortstop equipment. Instead, they would return to the control of 32d AAMDC. For this reason, portions of the HHB lateral transfers, put in place to enable the ALOC to jump forward, were now put on hold.

At 2246Z a United Kingdom Tornado aircraft was forced to make an emergency landing at Ali Al Salem, in part because it was unable to "squawk" any IFF codes. All Patriot units in the coverage area were notified immediately, and all Patriot batteries verified that they would not fire at the unknown aircraft.

31 March, 2003

31 March: V Corps conducts simultaneous attacks vicinity Al Hillah, Karbala and As Samawah. 3ID remains the V Corps main effort. A bridge near Al Handiyah was rigged for demolition by the enemy and 3ID engineers are currently conducting an assessment on how to disarm the explosives. 82nd Airborne Division secured key bridges on Highway 8 near As Samawah. I MEF confirmed contaminated water cyanide contaminated water source discovered near FARP WRIGLEY. Full report has been passed to C35 for coordination for SSE. 101st AA Division 2BCT conducted a feint towards OBJ MURRAY to the southeast of Karbala in order to fix the Medina Division and keep them oriented to the south toward Al Hillah. — obtained from the CMH "History of the Ground War" Brief

The 11th ADA brigade stance remained as follows: Kuwaiti Fire Units 1 through 5 continued to provide protection of Kuwaiti national assets; A, B, and D/2-1 ADA occupied Kuwaiti Naval Base, Ali Al Salem Airbase, and Al Jaber Airbase respectively; D/3-43 ADA occupied Camp Doha. C/5-52 ADA remained at Camp NEW JERSEY. D/5-52 ADA remained at TAA THUNDER. At midnight D/5-52 ADA came under small arms fire. Shortly after, two trucks tried to charge into their site. Concertina wire stopped the first truck. The second truck stopped only after return fire

rendered it inoperable. The unit took one EPW, who claimed he was a Kuwaiti captain and was lost.

After the JTOC's grueling six-day journey from Camp VIRGINIA to LSA BUSHMASTER, the 31st ADA brigade commander and JTOC personnel needed to renew their situational awareness. As a result, they monitored the battle for slightly longer than normal before retaking control of the brigade from the main TOC.

The 108th ADA brigade received FRAGO 9 from 32d AAMDC directing an on order attachment of D/3-43 ADA. It also ordered the brigade to return the shortstop equipment from B/2-43 ADA NLT 011700Z APR 03. The greatest concern was whether or not the D/3-43 ADA RSOP team would have enough time to complete their mission. The brigade issued FRAGO ACP 03-02, the Movement Warning Order and the Movement Execution Order to C/2-43 ADA to move to Qalat Sikkar. HHB/2-43 ADA also completed the lateral transfer of equipment back from B/2-43 ADA in order to enable the ALOC to jump forward.



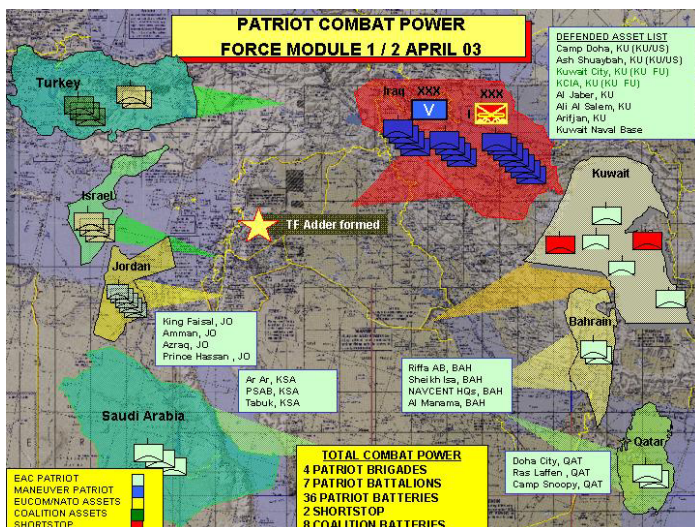
Even during battle, Air Defenders made time to remember our fallen comrades.

A New Mission for SHORAD – You Will Now Fight as a Battalion

Upon arrival of the battalion vicinity OBJ RAMS, the division ordered 1-3 ADA to pull back together and fight as a battalion in order to perform non-traditional air defense missions. Originally, 1-3 ADA had not expected this to happen until after they had reached Karbala Gap. Some of the missions include Patriot security and escort, several blocking positions, security of the FA-18 crash site, reconnaissance

The 108th ADA brigade received word that C/2-43 ADA completed its move to Qalat Sikkar and occupied its site by 0500Z. Shortly after occupying its site, it was able to provide adequate TBM coverage. During the early morning hours, the Iraqis fired two separate volleys. The first was a launch in the northern part of the country. This missile traveled from the area north of Karbala to the east. However, no sources could identify exactly where the missile landed. The other volley involved three CSSC-3 Seersucker missiles fired from the Al Faw peninsula. They originated in the same area as the one fired the prior day. Two of the Seersuckers landed near the border between Iraq and Kuwait. The third landed in Kuwait, in an area recently occupied by the I MEF units. The brigade also directed B/ 2-43 ADA to execute cruise missile simulation tests to find better ways of intercepting the Seersucker missiles due to their low flight elevations.

1 April: V Corps began offensive operations to destroy Medina Division. 3ID began its full offensive against the Republican Guard vicinity the Karbala Gap and southern Baghdad. TF 2-69 AR conducted the initial attack and moved to isolate Karbala from the east; they destroyed numerous technical vehicles and RPG teams along with a few tanks. 1BCT then attacked through the Karbala Gap toward OBJ PEACH. 2-7 IN attacked to contain forces exiting the west side of Karbala. The rest of the Brigade attacked through the Karbala Gap and moved to OBJ CHARGERS and Assault Position WAYNE. 1st MARDIV attacked north to Route 7, crossed Saddam Canal against light resistance, destroying tanks and artillery, and emplacing MLC-70 bridge over canal. – obtained from the CMH “History of the Ground War” Brief



The 11th ADA brigade received operational control of A/3-2 ADA at 1400Z. At Camp Doha, the battery conducted a RIP with D/3-43 ADA, which then prepared to move north to Tallil Airfield, and LSA ADDER. The remaining equipment for C and D/5-52 arrived at the SPOD carried by the USNS Pless.

The 31st ADA brigade Main TOC personnel moved forward at approximately 1300Z on Tuesday, 1 April to join the JTOC at LSA BUSHMASTER. Elements of 6-52 ADA, to include HHB and 549th Maintenance Company, convoyed ahead of the 31st ADA brigade

headquarters element. The first leg of the journey consisted of movement to the JTOC’s first travel location, Kuwaiti-Iraqi border along Alternate Supply Route (ASR) KILO.

1-3 ADA battalion leadership continued to react to a variety of non-traditional air defense missions during this period including: providing security to the Patriot Batteries in the division’ areas; providing security to the division’s FARPs; escorting numerous fuel tankers running up and down the MSRs, manning TCPs, and managing EPW collection points.

“The biggest thing was bringing them back together and command and control them under the battalion headquarters; it was new to them from the perspective of the ground fight and new to them in that they were used to always reporting to the brigade commanders.



LTC Mark Garrell, Cdr, 1-3 ADA (3ID)

They adjusted very quickly because they all stayed focused on the mission. I thought every battery commander did a tremendously exceptional job in their ability to transition from their air defense mission.” – LTC Mark Garrell, Cdr, 1-3 ADA, 3ID

2 April, 2003

Force Module 1 equipment for C, D/5-52 ADA and B/2-43 ADA arrived at the SPOD, feeing up two sets of shortstop equipment. A/3-2 ADA displaced in order to conduct a relief-in-place with D/3-43 ADA at Camp Doha. Together with HHB/3-43(-), D/3-43 ADA, and C/6-52 ADA, TF 3-43 assets formed what was called TF ADDER and moved to provide TBM protection of LSA ADDER. B/5-52 ADA, 31st ADA brigade, began to make its move forward under the security of the 1-3 ADA battalion Assault CP to assume protection of the crossing sites at OBJ PEACH.

The Protection of OBJ PEACH

2 April: V Corps continued to attack to destroy Medina Division. 3ID continued through the Karbala Gap to secure key objectives. 3BCT moved north and assumed blocking positions around Karbala to free 1BCT so it could resume the attack toward OBJ PEACH. 1BCT moved to secure OBJ PEACH. Elements secured overwatch positions over the bridge until it was approved for crossing. Engineers crossed the river by boat and checked the bridge supports for demolition; explosives were found and removed. Engineers also emplaced a 250-meter assault float bridge to the north to allow TF 2-69 AR to cross, destroyed enemy forces on the far side, and set up a bridgehead line. Once OBJ PEACH was secure, 1BCT continued to push forward and moved to EA HANNAH to the south. 3-7 CAV continues to provide screen in the open desert to the NW of OBJ PEACH. 101st AA Division continued to pressure paramilitary forces around AN NAJAF and conducted several operations within the city. The 82nd Airborne Division conducted direct action missions against paramilitary and Iraqi Intelligence Service facilities to prevent the interdiction of the ground lines of communication by the paramilitary forces. – obtained from the CMH “History of the Ground War” Brief

F-18 Down. JSRC reports down FA18 23km WSW of Karbala on the shores of the southern lake. JSRC directing V Corps PR assets to recovery at beacon location. PR package consists of 3xAH64 and 2xUH60 aircraft. Possible Blue on Blue, because E/5-52 ADA reported an engagement near same time.

The next major muscle move for 1-3 ADA occurred when the division rear boundary changed again. The battalion still had the same LOC security mission, but now it extended well to the north and east of Karbala, north to LSA DOGWOOD. The battalion’s northern boundary and eastern boundary was the Euphrates River. Initially, 1-3 ADA had 315 IN to the East, so the eastern boundary was secure. Alpha, Bravo and Charlie batteries performed the security mission, while Delta battery performed a separate mission securing the site of the downed FA-18 aircraft. 1-3 ADA had one bridge-crossing site at OBJ PEACH where the 54th EN battalion was located, and 1-3 ADA augmented their security with about a platoon plus worth of combat power.

OBJ PEACH was a bridgehead site crossing the Euphrates was west to east. The battalion consolidated its C2 and most of its firepower vicinity HA YELLOW, which was centrally located between all the main routes leading to OBJ PEACH. At this point, the battalion TAC was present and was working for the Engineers in an area called AO SAPPER, which included everything on the western side of the Euphrates to include the bridgehead. The battalion TOC was on the way. They worked for

SAPPER for about 48 hours and then were chopped to the 937th Engineers for about another week.

3-15 IN was located in EA HENRY and EA HANNA, where the battalion established numerous TCPs and blocking positions. 3-15 IN moved further north and the division’s eastern flank was exposed; so, B/1-3 ADA established three blocking positions along the three main avenues of approach coming out of the city in the southern portion of EA HANNA. At this time, the battalion also had priority for engineer support, and had engineer assets dig positions, berms, put up concertina wire, and pretty much

shut down the civilian traffic in the entire division rear area; nothing moved if it wasn't a U.S. Army vehicle.

“At this point soldiers were getting a little bit tired, if you want to know my personal opinion. They went right from combat operations in support of their maneuver brigades into a mission of securing the entire division rear area, screening operations, 24 hours a day, 7 days a week, without having the ability to rotate the units through the operations...the checkpoints, the TCPs, the blocking positions, the security at the bridge, which then became the security of two bridges when we put another one in at OBJ CHAMBERLAIN, once again 54th Engineers. Sitting a crew on an Avenger for 24 hour ops for that period of time --- guys were starting to get fatigue --- same thing with the Linebackers and Bradleys. Not having dismounts like an Infantry squad does on a Bradley makes it more difficult because you only have three guys (the driver, the gunner and the track commander) so you're just up all the time.” – CPT Mike Melito, Assistant Battalion S-3, 1-3 ADA, 3ID

C/1-3 ADA then moved just south of the division's crossing south of OBJ PEACH where the unit performed primarily a QRF mission. Two sections of M6 Linebackers helped engineers clear a possible WMD facility, called the Latifa Compound, which was division NAI #1.

“We cleared 14th Mech Brigade HQs of the Republican Guard, their garrison compound. We physically went through there one morning and cleared that. The CAV had the mission and they were on the way, but it was in my area of operations; my higher headquarters gave me the mission to clear that, which was west along the Euphrates River near OBJ HANNAH. I'll never forget the Kiowa Warriors from the CAV were coming in that morning because there was a report that there was 100 T-72s parked in that area...so we went in with about 15 Bradleys to determine what it was. It turned out to be probably about 300-350 assorted vehicles.” – LTC Mark Garrell, Cdr, 1-3 ADA, 3ID

The Assault CP escorted elements of B/5-52 ADA as it moved forward to a position that overlooked OBJ PEACH; after numerous vehicles ran off the road and got mired in the soft sand, the commander decided to only take a Minimum Engagement Package forward and left the rest at a holding area south of the Karbala Gap for later movement. At this time, there was no Patriot coverage in Baghdad for the OBJ LIONS fight, so Corps identified a Patriot unit to move from vic OBJ RAMS to HA YELLOW, which was north of OBJ CHARGERS, but could cover OBJ SAINTS as well. Since 1-3 ADA was responsible for rear area security, the battalion was tasked providing security for the Patriot battery up to HA YELLOW, which was four to five kilometers south of OBJ PEACH. B/5-52 ADA was brought forward to Checkpoint #0090 and went to blackout drive and NVGs where they were linked up with the battalion Assault CP who provided security for them up to Baghdad. Again, this was another great example of air defenders working together on the battlefield.

Conclusion

OIF operations challenged AMD units because of the long distances between units. These distance challenges must be studied, but it appears ADA brigades with Patriot battalions require a more robust organic communications backbone. Initial reports highlight that these brigades need TROPO, HF radios, and TACSAT in order to maintain communications at distances that extend beyond UHF line of sight capabilities.

The electromagnetic spectrum has become more crowded on the information operations (IO) battlefield. More analysis needs to be conducted on electromagnetic interference (EMI) and its effects on friendly and threat forces. The analysis of the effects of EMI should also focus on the creation and refinement of joint tactics, techniques, and procedures (TTPs) for Integrated Combat Airspace Command and Control (ICAC2) in a highly dense environment. These TTPs should also be applicable to the environment in the Korean Theater of Operations.

CHAPTER V - REGIME ISOLATION AND REGIME REMOVAL, 3 April - 9 April, 2003

During the phase of regime isolation and regime removal from Baghdad, the 32d AAMDC and the Patriot force continued to provide coverage to critical assets and reevaluated the active defense stance to determine changes in coverage. In order to support the TAMD plan outlined by OPLAN Cobra II Blackjack, each brigade and separate task force was assigned specific responsibilities. Once troops entered Baghdad, the c-TBM attack operations changed dramatically. Destruction of the TBM infrastructure ceased and ATO targets were limited to the north. All TBM targets in Baghdad had to be referred to the CFLCC and commonly targets were investigated by ground forces rather than destroyed. More and more abandoned TBM-related equipment was discovered.

3 April, 2003

3 April: 1BCT continued to secure the bridgehead line vicinity OBJ PEACH. 2BCT conducted FPOL with 1BCT at 0349Z attacked to seize OBJ SAINTS and completed the destruction of the Medina Division. At 0900Z, 2BCT seized OBJ SAINTS and established roadblocks along Highways 1, 8 and 9. 1-64 AR pushed south to secure blocking positions south of OBJ SAINTS. Forces then pushed to the south and engaged the enemy vicinity EA BLAZER and EA UNION in order to complete the destruction of the Medina Division. At 1200Z, 1BCT attacked from OBJ SAINTS to secure OBJ LIONS in order to begin the establishment of the inner cordon around Baghdad. 82nd Airborne Division attacks north of As Samawah. 3-7 CAV passed through OBJ PEACH and attacked to the northwest to guard against an attack from the Hammarabi Division and Special Republican Guard Forces, destroying a number of T-72s and BMPs. I MEF attacked to destroy the Baghdad Division, isolate southeast Baghdad, and continued the destruction of regime death squads in zone.
— obtained from the CMH "History of the Ground War" Brief

The Iraqis fired three FROG-7s early in the morning. The first volley was fired at 0020Z. It originated from Al Hillah and landed in An Najaf. The second volley, at 0150Z, contained two FROG-7s and was the first time the Iraqis simultaneously fired two missiles. Both were launched from Al Hillah and landed in An Najaf. The missiles were outside of the Patriot coverage fans and therefore not intercepted. The missiles did not cause any damage.

B/2-43 ADA moved forward to Jalibah where it began a relief in place with D/ 2-43 ADA. By 1600Z, B/2-43 ADA had a minimum engagement capability in place. Meanwhile, the Minimum Engagement Package from A/5-52 ADA, 31st ADA brigade continued to slowly

move toward an over watch position near OBJ PEACH.

2/A/1-3 ADA (L) moved forward and provided SHORAD coverage over the crossing sites vicinity OBJ PEACH, protecting the division's priority of effort as it passed through; once 2BCT had made its passage, the platoon moved forward to provide air defense coverage of 1BCT as it attacked to seize OBJ LIONS. 1/B/1-3 ADA (L) continued to provide air defense coverage to 2BCT as it protected the brigade TOC and BSA. 3/C/1-3 ADA (A) continued to provide air defense coverage to 3BCT as it set a cordon around Karbala to protect the division's passage through that series of chokepoints.

4 April, 2003

Several Fragmentary Orders were issued on this date. 32d AAMDC FRAGO 14 assigned HHB/3-43 ADA and the 516th Maintenance Company to TF 3-43 and by proxy to the 108th ADA brigade. The 108th issued FRAGO ACP 05-03 at 0200Z issuing a Movement Warning Order and Movement Execution Order to C/2-43 ADA. This order moved C/2-43 ADA north to An Numaniyah. D/2-43 ADA moved to Hantush, but when it arrived, the III MAF commander and the I MEF commander assessed the site for the MEF Forward as unusable due to high water. As a result, the 108th ADA brigade issued FRAGO ACP-07-03 to modify the location. D/2-43 ADA moved to a new location at An Numaniyah where it set up a minimum engagement capability by 1635Z.

4 April: 3ID secures Baghdad International Airport and OBJ SAINTS. 1BCT secured Baghdad International Airport and set up blocking positions to counter any type of counterattack from Baghdad along Highway 8. 2BCT continued to block vicinity OBJ SAINTS and repel attacks of both regular and paramilitary forces south out of Baghdad. 3-7 CAV continues to perform its guard mission to repel any counterattack from the northwest by the Hammarabi Division and Special Republican Guard Forces. 82nd Airborne Division continues to secure As-Samawah. 101st AA Division secures An Najaf and FARP SHELL. 1st MARDIV commenced secured on OBJ RAVENS by 1215Z. – obtained from the CMH "History of the Ground

The 31st ADA brigade main TOC arrived at OBJ RAMS at 1100Z. Convoy personnel used multiple forms of communication, to include FM, Iridium phones, and Motorola 2-way radios. The Motorola radios proved the best method for operations; however, batteries ran low on the third day of the convoy. The convoy continued to MSR TAMPA and then into Convoy Support Center (CSC) KENWORTH, just north of Tallil Airfield, approximately 150km into Iraq. Upon arrival at 0900z, vehicles were refueled. Key leaders in the main TOC were placed in the convoy configuration and took accountability of personnel and equipment, established security, and set up temporary camp overnight. HHB convoyed 118km from CSC KENWORTH to AA PETERBILT on day three, where again refueling operations commenced and security was established. Main TOC personnel then rejoined the JTOC at LSA BUSHMASTER.

At 1100Z the 108th ADA brigade Jump ALOC, now called the Combat Logistics Operation Center (CLOC), began its move forward under the leadership of CPT Schroeder. The convoy made it to the border, and planned to cross into Iraq the following morning. D/2-43 ADA moved north to Shayk Hantush FARP. However, the III MAF had decided to close down the FARP in order to divert resources into establishing its FOB at An Numaniyah. As a result, D/2-43 ADA moved to An Numiniyah in vicinity of the I MEF Headquarters. C/2-43 ADA also moved to An Numiniyah with the movement of the I MEF FARP from Qalat Sikkar.

The Attack into Baghdad International Airport (BIAP)

1-3 ADA had one platoon supporting 2BCT attack into OBJ SAINTS and then into OBJ LIONS. Several days after the initial attack into OBJ LIONS, the battalion moved up into BIAP at which time it was chopped to the DIVARTY. 1-3 ADA was now responsible for the western side of the BIAP airfield, AO STRIKE, and several zones (6, 34, and 35) in a town outside of the airfield called Abu Gareb.

“The day prior to the seizure of the BIAP airfield, there was a plan to use my Stinger Teams to proceed to the parking garage of the airfield, once the breach was established. My Stinger Teams went into the parking

garage and cleared the topside of the garage to include the stairwells. That in itself is something we usually don't train for. However, we rehearsed for it and conducted the mission.” – 1LT Hector Ponce de Leon, Platoon Leader, C/2-44 ADA, 101st AA Division

3ID issued a FRAGO which changed the division's rear boundary for the third time and tasked 1-3 ADA with the same LOC security mission, but with a boundary even further north; the Euphrates River was the battalion's northern and eastern boundary. It also tasked the battalion to provide security for all Patriot batteries maneuvering to the initial division crossing site at the Euphrates River and the future location of the Division Support Area which became LSA DOGWOOD. 1-3 ADA was now attached to the division engineer brigade, providing security for the division from PL DOVER to OBJ PEACH, to include continuing protection of the F/A-18 crash site, all Patriot batteries, DMAIN and DREAR. Battalion elements even conducted a screening mission north of AO SAPPER.

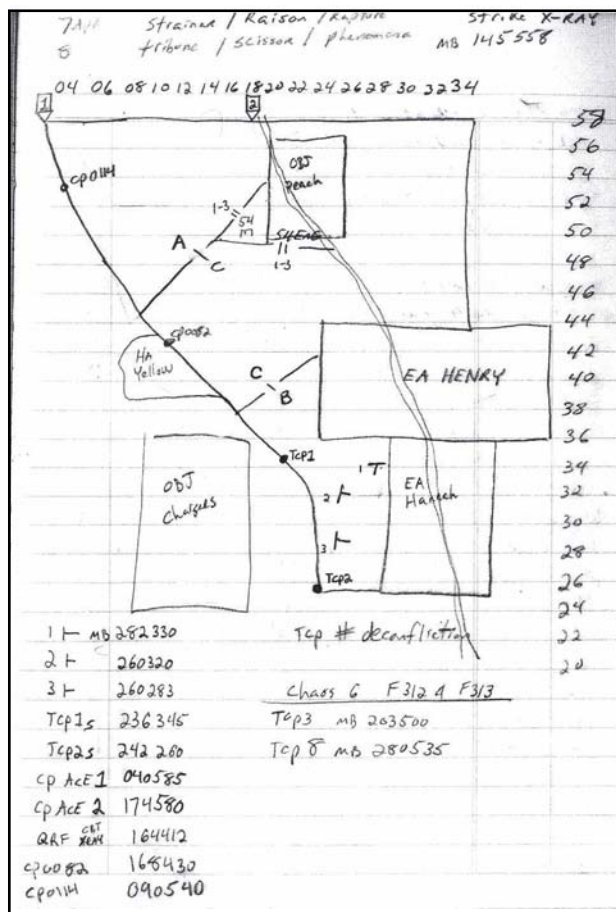
2/A/1-3 ADA (L) continued to provide air defense coverage to 1BCT vicinity OBJ LIONS as well as secure the brigade's LOG PACs as they traveled back and forth between OBJ LIONS and OBJ SAINTS. 3/D/1-3 ADA continued to provide air defense coverage to DIVARTY vicinity OBJ SAINTS and the DTAC vicinity OBJ LIONS.

5 April, 2003

D/5-52 ADA received 11th ADA brigade FRAGO 44, which ended its mission at TAA THUNDER and ordered it to complete a relief-in-place with A/3-2 ADA at Camp Doha. A/3-2 ADA was then ordered to move to Arifjan.

The 108th ADA brigade Assault CP moved to An Numiniyah FOB with the I MEF main CP. D/2-43 ADA set up minimum engagement capability at Hantush at 1635Z. At 0200Z, Delta battery's RSOP team departed for An Numiniyah, and the main

5 April: 2BCT (3ID) conducted an armored raid, which fought to the center of the Baghdad, destroying numerous T-72s, BMPs, and wheeled vehicles. At 0700Z, 2BCT (101st AA) conducted an air assault and relief in place with 3BCT (3ID) at Karbala. 101st AHR conducted armed reconnaissance east of Lake Mills. 82nd Airborne Division attacks with 1-41 IN at 2300Z. 101st AA Division conducted an armed recon, destroying numerous enemy BMPs and an S-60 AAA gun. At 1115Z, I MEF reported finding possible war crimes site in Az-Zubayr. Two warehouses reportedly contained bodies of deceased persons. – obtained from the CMH "History of the Ground War" Brief



Hasty map sketch by CPT Mike Melito, Assistant Battalion S-3, 1-3 ADA (3ID)

body followed at 0800Z. The CLOC with its team of fifteen personnel crossed into Iraq and arrived at Tallil. D/2-43 ADA arrived at An Numiniyah and achieved Alert State 2 at 1128Z. C/2-43 ADA reported being operational as well at its new site at An Numiniyah at 0905Z.

The 3ID DTAC moved to OBJ LIONS and assumed its final position at Baghdad International Airport. The

section made the move safely and reestablished communications with the different air defense assets still providing air defense coverage to the east of the Euphrates River. 1-3 ADA established near and far side security of the bridge crossing the river in OBJ PEACH, established three platoon battle positions in the southeastern corner of their area vicinity OBJ HANNAH, established numerous TCPs and checkpoints and served as a screen of the division's southwestern flank. The battalion also constituted the division TCF, established near and far side security for a second bridge that was emplaced by the 54th Engineer battalion at OBJ CHAMBERLAIN and provided armored escorts for every convoy traveling through the division rear area and up to the forward maneuver brigades as well as the Baghdad International Airport. During this mission, elements of the battalion were in direct fire contact almost daily, maneuvering at the squad and platoon level and overwhelming bypassed enemy resistance with superior maneuver and firepower until the zone was secure.



An Numiniyah Airfield, Iraq.

2/A/1-3 ADA (L) provided air defense coverage to 1BCT vicinity OBJ LIONS; the platoon leader linked up with the ADADO, rendered a detailed SITREP on the platoon's actions during the previous 48 hours, and requested guidance. The platoon had been moving non-stop for 48 hours while in almost constant contact with the enemy, receiving both ineffective direct and indirect fires. The platoon was responsible for destroying a number of enemy tanks and at least twelve Iraqi dismounts during the fight to secure OBJ LIONS. During a nighttime movement, the platoon was engaged by an enemy mortar team and while attempting to move out of the kill zone, the platoon's HEMMT tipped on its side; the vehicle was later recovered and was able to move under its own power. After giving the ADADO the detailed SITREP, the platoon was instructed to rest and recover in preparation for movement back to OBJ DOGWOOD and back under battalion's control.

6 April, 2003

11th ADA brigade had not engaged a theater ballistic missile since 27 March 2003. As a result, brigade FRAGO 45 was issued, ensuring that all units returned their rotational ARCENT-SA equipment to pre-war stations and consolidated float equipment at Arifjan.



The Patriot was 9 for 9 in intercepting Iraqi TBMs during OIF.

31st ADA brigade headquarters and the main TOC further established themselves in OBJ RAMS. They set up perimeter security, pulled guard, set up latrines, burned garbage, emplaced concertina wire, set up tents and created makeshift showers. The JTOC prepared to leave for OBJ CHARGERS.

The 2-43 ADA TOC, 108th ADA brigade, displaced to An Numaniyah. The greatest challenge facing the 108th ADA brigade was building command relationships with TF 3-43 ADA, D 3-43 ADA, and C 6-52 ADA. Although OPCON to

108th Brigade, the units were still reporting and communicating directly with the 32d AAMDC. Eventually, the command and control issue was resolved and units from TF ADDER began reporting solely to the 108th ADA brigade. The brigade also received SAM/SHORAD Tactical Order 2 from the 32d AAMDC. The order changed the Air Defense Warning (ADW) from 'red' to 'yellow' within Iraq for the TBM threat, indicating a significantly reduced threat than existed in the previous weeks. The weapons status remained 'tight' and the manned aircraft ADW level stayed at 'white'.

6 April: 1BCT (3ID) secures BIAP. 2BCT (3ID) cleared OBJs GRADY and HANNAH. 3BCT (3ID) attacked north to clear OBJs FLORENCE and TITANS, encountering heavy contact. 101st AVN brigade's armed reconnaissance into EA NOVA will resume tomorrow, 0900Z-1200Z. 82nd Airborne Division clears Highway 8 north of As Samawah and prepares to clear Highway 9 to An Najaf as it conducts a RIP with 1BCT (101st AA) to isolate An Najaf. 1BCT (101st AA) continued operations vicinity An Najaf. 2BCT attacked near Karbala to destroy an enemy HQs and a terrorist training camp. 3BCT repositioned forces to TAA RAKASSAN in preparation for their attack on Al Hillah. Expect a 24-hour delay in 3BCT's attack on AL Hillah due to weather. RCT 7 (1st MARDIV) attacks along the Diyala River. RCT 1 conducts a RIP with RCT 7 at the northern bridge. RCT 5 continues to attack northwest to secure a crossing site along the Diyala River and the Tigris River. – obtained from the CMH "History of the Ground War" Brief

As part of a verbal FRAGO, the 3ID cut the rest of the 1-3 ADA battalion away from the three maneuver brigades and returned them back to battalion control effective 0300Z. 2/A/1-3 ADA (L) returned to the battalion's control west of the Euphrates River. 1/B/1-3 ADA (L) returned to the battalion's control west of the Euphrates River. 3/C/1-3 ADA (A) received orders to return to the battalion's control, but the BCT was reluctant to release them from their mission. D/1-3 ADA (A) continued to provide air defense coverage to the DTAC and DIVARTY.

2-44 ADA received a mission to move vic Al Hillah without one of their platoons, which was chopped to 3ID. C/2-44 ADA only had one Sentinel radar with the battery at this time because the others were vicinity An Najaf with the rest of the battalion. First platoon with 1-187 IN went in to secure key intersections and bridge sites in support of 3BCT's mission to clear MSR RHINO, which was the main north-south avenue of approach coming into Al Hillah, along Highway 8. First platoon secured a number of bridges across the route. The Stinger teams had AT-4s as part of their UBL, which allowed them to conduct over watch missions in addition to their air defense mission. The Avengers really helped 2-44 ADA and 101st AA Division in the cities with its .50 caliber machine gun and FLIR radar.

7 April, 2003

31st ADA brigade's eight Patriot batteries were arrayed as follows: A/5-52 ADA covered the V Corps TAC at OBJ CHARGERS; B/5-52 ADA moved to cover OBJ LIONS; C/2-1 ADA and E/5-52 ADA covered the Karbala Gap; A/6-52 ADA covered OBJ RAMS; B/6-52 ADA covered An Najaf; D/-52 ADA covered FOB SHELL; and E/6-52 ADA covered the Karbala Gap.

2-43 ADA, 108th ADA brigade, established its communications plan for operations forward in theater. Communication throughout the theater was very complex. The plan had Delta and HHB batteries using local shots into Charlie battery. All three batteries were located near An Numaniyah along with the brigade commander, 2-43 ADA's commander, XO, and S3.

7 April: V Corps destroyed Republican Guard Forces and irregular forces in zone and attacked to the center of the capital. Other elements continued north on the western outskirts of Baghdad, isolating the city from the south and west. 1BCT (3ID) continues to secure OBJ LIONS and expand the BIAP area of operations, securing a Presidential palace east of OBJ LIONS. 2BCT secures government buildings and presidential palaces in Zone 1 and LOCs south to OBJ SAINTS. At 0757Z, 2BCT (3ID) TAC at OBJ SAINTS received rocket and artillery fire from the south. 3BCT (3ID) continues to secure areas around N-NW Baghdad vicinity OBJ FLORENCE and TITANS. 101st AA Division reported locating suspicious barrels at VIC OBJ MURRAY at 0910Z. RCT 1 (1st MARDIV) secures its ford site and its ribbon bridge-crossing site in zone; two MECH companies have crossed the Diyala River. RCT 5 moves south, passes through RCT 1, and moves north to extend its cordon north of Baghdad to the Tigris. RCT 7 secures its two bridgeheads on the Diyala River; one tank battalion crossed the northern bridge in RCT-7's zone. 3rd LAR extends its screen into the zones vacated by RCT 1 and RCT 5. TF TARAWA conducts a movement to contact in zone to Al Amarah and secures Nasariyah, Ash Shatrah and Numiniyah. – obtained from the CMH "History of the Ground War" Brief

C/2-43 ADA communicated by TROPO shots to B/2-43 ADA, located in Jalibah. Additionally, A/2-43 ADA communicated with B/2-43 ADA through two Communications Relay Groups (CRGs). A/2-43 ADA positioned near An Nasariyah covered the Euphrates river crossings.

8 April, 2003

8 April: 3ID elements received fire from the Palestine Hotel in downtown Baghdad and returned fire. 3ID also destroyed a military compound (believed to be a Para-military training facility) vicinity OBJ FLORENCE and then attacked east along Highway 1. 3/7 CAV secured the division rear area vicinity OBJ SAINTS, destroying numerous enemy vehicles and continued to protect southern flank of division to ensure the MSR stays clear. 101st AA Division units conducted an armed reconnaissance to Al Hillah, where they discovered several large weapons caches, an underground storage facility containing an abundance of class I supplies, and Roland missiles. 82nd Airborne Division attacks north to Ad Diwaniyah to destroy enemy forces. 2nd LCR secures the Highway 9 LOC. 4ID and 3rd ACR continue RSOI operations. I MEF units advanced against no resistance east into al Amarah, destroying numerous abandoned tanks and occupying the 10th Armor Division headquarters. TF TARAWA continues to secure An Nasariyah, Highway 1 and Highway 7 LOCs, and Al Amarah. – obtained from the CMH “History of the Ground War” Brief

The 11th ADA brigade issued FRAGO 47 and 48, directing A/3-2 ADA to maintain accountability of all float assets and the RSOI of E/3-43 ADA into Arifjan. In support of TF Adder, E/3-43 had been released from its mission in Qatar and moved via LSV to Kuwait. When E/3-43 ADA personnel and equipment arrived at the Kuwaiti Naval Base, the port was unable to support the docking of the LSV. The ship was forced to leave port and sail to Ash Shuaybah.

C/2-1 ADA, with 31st ADA brigade, arrived at OBJ GRADY. Once the routes were deemed secure, the 31st ADA brigade JTOC separated once again from the main TOC after conducting crucial resupply and maintenance operations. The JTOC march ordered and

jumped all the way to OBJ LIONS, located at Baghdad International Airport. The JTOC, augmented to 43 personnel and an additional fueler, led the rest of their convoy, which included HHB/5-52 ADA and D/6-52 ADA. The convoy halted in the vicinity of the Karbala Gap for an approximate hour-long stop. At the rest stop, D/6-52 ADA split off from the rest of the convoy to go to their pre-selected position, which would allow coverage of the Karbala Gap. However, a call came in from the V Corps Main to the 31st ADA brigade TOC requesting that a Patriot battery be immediately deployed to OBJ DOGWOOD. The brigade was instructed to assume risk at the Karbala Gap and move the battery immediately. This followed a first emergency call received at the Main TOC at LSA BUSHMASTER directing movement to OBJ DOGWOOD instead of the originally scheduled stop, per order of the V Corps CG.

9 April, 2003

Patriot continued to provide protection of critical assets in theater as well as maneuver forces north in Iraq. As the mission at TAA THUNDER ROAD terminated, D/5-52 ADA relieved A/3-2 ADA from Camp Doha. Shortstop equipment was returned to Arifjan. The final serial to arrive in Kuwait was 174B. MODLOC ships from 4ID arrived in Port with the equipment of 1-1 ADA (-), consisting of three Patriot batteries, which were delayed and redirected because of Turkey’s refusal to allow the 4th Infantry Division to pass through its territory in order to open a Northern front in operations against Iraq. The arrival of 1-1 ADA raised the number of U.S. Patriot batteries in the CENTCOM AOR to 41 for a total of 6,519 personnel.

9 April: The statue of Saddam Hussein came down in downtown Baghdad. V Corps attacked east out of OBJ LIONS in order to seize the last intersection of Highway 8 under Republican Guard control and destroyed several small groups Republican Guard trying to infiltrate across the Tigris River. 82nd Airborne Division continued to secure and liberate As Samawah, and attacked Ad Diwaniyah IOT to link up with Iraqi freedom fighters who helped regain control of the town. The 101st AA Division attacked Al Hillah and captured a warehouse full of Iraqi class I and III. The 11th AHR conducts armed recon south of Baghdad along the west bank of the Tigris River. I MEF attacked to complete the isolation of Baghdad north along the eastern edge, and into the city center. Seized key facilities to include the DGS headquarters, Fedayeen headquarters, Air Force headquarters, the Ministry of Intelligence, and the Ministry of Oil. – obtained from the CMH “History of the Ground War” Brief

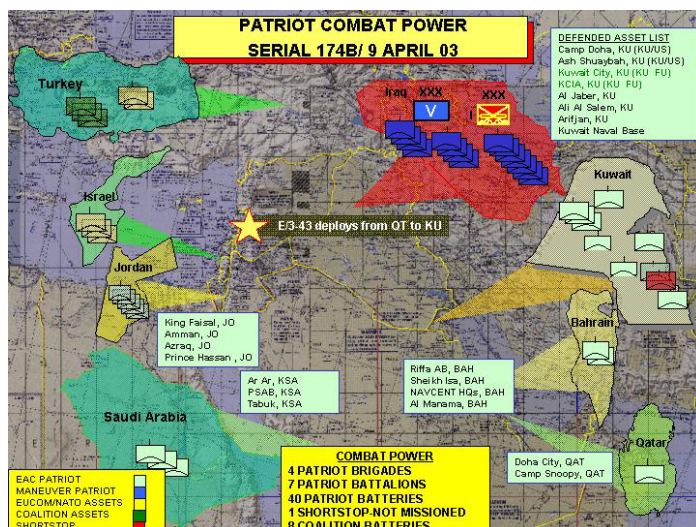
The 11th ADA brigade finally moved to MOPP 0. Individual “Ice Packs” of chemical equipment were no longer required to be carried, but had to be within 10 minutes of the soldier. The LSV with E/3-43 ADA’s equipment moved to the Port of Ash Shuwaybah to download. E/3-43 ADA moved to Arifjan with all personnel and equipment and remained on standby to move forward into Iraq in support of TF Adder..

The 31st ADA brigade JTOC convoy spent the night at OBJ DOGWOOD, and then moved to OBJ LIONS (Baghdad International Airport). 6-52 ADA remained at LSA BUSHMASTER.

Brigade personnel at OBJ LIONS faced several issues. They reconnoitered the site to determine whether they could operate from buildings or tents. Mail also concerned them since it would continue to be delivered to Camp VIRGINIA in Kuwait until they established a permanent location. Finally, water consumption was critical and although already rationed, further restrictions were announced.

Conclusion

SHORAD units were a valuable combat multiplier for the maneuver commander during OIF. These units demonstrated their ability to simultaneously perform a traditional air defense mission and a non-traditional air defense mission (for example, Division LOCs security, manning TCPs, bridge security, blocking positions, and patrols/raids in Iraqi municipal locations). Use of SHORAD units in non-traditional air defense missions conserved combat power for the maneuver commander. SHORAD leadership, soldiers and weapons systems showed the necessary versatility and agility to accomplish any assigned mission.



CHAPTER VI - TRANSITION TO POST-HOTILITIES OPERATIONS, 10 April to Present

10 April, 2003

10 April: BIAP was opened to intra-theater airlift. At 2353Z, the CFLCC Early Entry Command Post (EECP) arrived at BIAP. The 82nd Airborne Division conducts a RIP with 101st AA Division Karbala. 1BCT (101st AA) continues security operations in An Najaf, canceling the media event due to the killing of the local cleric. 2BCT (101st AA) conducted RIP with 82nd Airborne Division in Karbala and started air and ground movement to OBJ GRADY to prepare for future combat operations in Baghdad. 3BCT (101st AA) attacked north to OBJ GRADY and encountered light resistance from paramilitary troops that were securing equipment caches in the area of operations. TF TARAWA attacked vicinity Al Kut while 24th MEU attacked south on Highway 6 toward PL CAROLINA and the 14th ID. – obtained from the CMH “History of the Ground

The 31st ADA brigade convoy completed the last leg of its journey, traveling through OBJ PEACH over the Euphrates River, arriving at OBJ LIONS and emplacing at an abandoned, walled complex that provided necessary security. The 101st AA Division provided JTOC personnel convoy security for the initial portion of the move, and elements from the 31st ADA brigade’s SECFOR covered down on the remainder. The weather proved much more amenable to travel during this convoy than during the JTOC’s first jump. Also unlike the first JTOC convoy, driver

fatigue was not an issue, due to the shorter length of the trip and implementation of a sleep plan. The jump to OBJ LIONS was successful, and left the JTOC postured to lead from the front.

The 108th ADA brigade received 32d AAMDC FRAGO 21. The order changed ADW in Kuwait to ‘white’ for the TBM threat, but only for Kuwait. In addition, the brigade directed E/2-43 ADA to be released from its mission NLT 0100Z and move to An Nasariyah to conduct a relief-in-place with A/2-43 ADA, which would relocate to the Salman Pak FARP just south of Baghdad. Because of the geographic spread of its units, command and control remained a challenge for the 108th ADA brigade. Communications were in and out for most of the day. SIPR net was up and down with 3-43 ADA battalion. Voice communications were unreliable with the JTOC, the CLOC, and 2-43 ADA’s BTOC. For at least 24 hours, the 2-43 ADA ALOC was unavailable as a result of poor communications.

In Baghdad, C/2-44 ADA actually stayed in the Iraqi ADA School HQs, which is where the 3BCT headquarters was located. C/2-44 ADA conducted convoy security missions and secured weapons caches. Second platoon, alone, conducted over 40 convoy security missions within one week. During this time FROG missiles were discovered on the side of the road. Also, the commander for C/2-44 ADA, CPT Patrick Costello, was appointed CMO for southern Baghdad.

11-12 April, 2003

The 11th ADA brigade issued FRAGO 50 ordering the movement of one float radar station to Tallil Air Base to replace the damaged one from 31st ADA brigade. E/3-43 ADA continued to standby for movement north to Tallil Airbase. In Jordan, 1-7 ADA prepared to redeploy to Fort Bliss no earlier than 30 April.

11 April: 1BCT (3ID) secures power station, clears in zone along Highway 8 to open Baghdad to commercial traffic. 2BCT (3ID) continues attacks in zones 38 and 55 and conducts Relief In Place with 101st AA Division in southern Baghdad zones. 3BCT (3ID) attacks in zone to seize AHA and patrols in zone to maintain presence. RCT 1 (1st MARDIV) continues to secure Baghdad zones. 3BCT (3ID) also conducted RIP with 3/7 CAV, and cleared an Iraqi Military Intelligence HQs. 3/7 CAV continued Relief In Place with 101st AA Division vicinity OBJ SAINTS and screens north along PL ST. LOUIS. The 82nd Airborne Division conducts humanitarian assistance and supports facilities assessments in As Samawah and Ad Diwaniyah. 1BCT (101st AA) was OPCON to 82nd Airborne Division continues security operations vic Karbala and Al Hillah. 2BCT (101st AA) conducted an air assault with 1,200 soldiers and GAC with the remainder of the brigade into OBJ SAINTS, conducting RIP with 3ID, encountered light contact along Highway 8, and began clearing operations in zones 39-44. 3BCT (101st AA) attacked to clear zones 26 and 47, destroying military equipment with both air and ground forces. RCT 5 continues to secure zones in northeast Baghdad and isolate the city. RCT 7 continues to secure Baghdad zones. 11th Marines establish a CMOC at the Palestine Hotel.

12 April: 2BCT (101st AA) reported light contact with enemy forces in Southwest Baghdad. 2BCT (3ID) secured the main Baghdad hospital today. 3BCT (3ID) secured an ammo plant and the ammunition holding area. 2BCT (82nd ABN) secures As-Samawah, Ar-Rumaythah, Ad-Diwaniyah, and Highway 8. 1BCT (101st AA) secures An-Najaf, Al-Hillah, and Karbala. 2/2 ACR secures Highway 9. I MEF units commenced their attack north to Baqubah and Tikrit. Task Force IRON HORSE (4ID) continues preparations for deployment to Kuwait. Download of ships continue. 1 BCT (4ID) and 4th Brigade have completed reception, staging, onward movement and integration. 2BCT (4ID) is at the port awaiting heavy equipment transport transportation. 3BCT (4ID) is postured in the tactical assembly area. – obtained from the CMH "History of the Ground War" Brief

On 12 April, A/5-52 ADA joined B/5-52 ADA at the Baghdad International Airport. Bravo battery was the first Patriot firing battery to arrive at the northern location.

The 108th ADA brigade received FRAGO 283 regarding operational protection measures for units operating in the CFLCC rear, the area south of the Kuwait-Iraq border. The new guidance required soldiers to carry their protective masks and have JSLIST's within ten minutes reach. E/2-43 ADA arrived at A/2-43 ADA's location near An Nasariyah. A/2-43 ADA march-ordered to Salman Pak forward arming and refueling point, just south of Baghdad, which put the battery on line with the most northern battery of the 31st ADA brigade. The 108th ADA brigade also examined a draft plan which called for B/2-43 ADA, presently providing protection to the port of Umm Qasar, to move north and join A/2-43 ADA at Salman Pak FARP. This new plan would provide two Patriot batteries at An Numaniyah, where the I MEF was headquartered, and left E/2-43 ADA at An Nasariyah. However, the 108th ADA brigade leadership, along with 32d AAMDC planners, reassessed the brigade's tactical stance as operations progressed around Baghdad. Eventually, the decision was made that Alpha, Charlie, and Delta batteries would remain covering the Salman Pak FARP and An Numaniyah, and Bravo and Echo batteries would

relocate south to Tallil Airbase. Once at Tallil, they would go through Patriot gunnery table training as well as take advantage of other training opportunities. The 555th Maintenance Company would also remain at Tallil Airbase.

On or about 11 April, 2003, with the 3ID rear area secure, a division FRAGO once again changed the mission for 1-3 ADA. The new order task-organized the battalion under the DIVARTY and the battalion was tasked to secure portions of Zone 4, which included the northern, western and southern perimeters surrounding the Baghdad International Airport (BIAP). Both, 1-3 ADA battalion and the 1-39 FA battalion were tasked with this mission. BIAP was the shape of a football field, and 1-3 ADA was given the western half of BIAP, from the 12 o'clock to the 6 o'clock sector, and 1-39 FA had the eastern side. Upon receipt of the mission, the battalion Assault CP departed to conduct a



1-3 ADA (3ID) HQs on Baghdad International Airport. The battalion had to clear about 300 looters from the building upon their arrival.

leader's recon of the new area. What the battalion found around the Baghdad International Airport was initially chaotic with thousands of looters stealing anything they could carry both on foot and in vehicles. Immediately, the battalion Assault CP secured as much of the area as they could and called the battalion forward. Within hours, the assigned sectors surrounding the airport were secure and the soldiers began preparing security positions and checkpoints along the major avenues of approach leading into the airport. 1-3 ADA then received a new mission to begin urban patrols conducted ICW SOF, Aviation, Military Police, and Iraqi municipal police into the town of Abu Gareb, with a population of about 750,000, in order to return a sense of "normalcy" to the area.

13-14 April, 2003

13-14 April: 1BCT (3ID) maintains presence patrols in zones 37, 5, 36 and south on Highway 8. 2BCT (3ID) secures the Al Mansur Water Treatment Plant (Zone 55), assesses the requirements of two hospitals in Zone 1, and distributes HA medical supplies and distributes it to local hospitals. 82nd Airborne Division continued to secure Highways 8 and 9 while conducting aerial recons. Reported that An Najaf and Ad Diwaniyah have a police force with about 130 and 200 personnel respectively. 2BCT (101st AA) cleared Highways 1 and 8, discouraged looters in zone, and provided security for water plant in zone 39. 3BCT (101st AA) held a very successful meeting with leaders from the power plant and water facility. TF Tripoli RCT 5 resumed its attack on Tikrit. LAR units were advised where reported POW's were and subsequently rescued them. Initial reports indicate the POWs are in fair to good health. TF TARAWA performed LOC security east along Highway 6 and south of Al Kut along Highway 7. Lead elements of 4th Infantry Division cross LD into Iraq. – obtained from the CMH "History of the Ground War" Brief

The 5 POWs from 507th were recovered today vicinity Samarra! As the 1 MEF moved north out of Baghdad to Tikrit, an Iraqi waved the Marines down and told them that there were Americans walking along the road up ahead. The Marines picked up the five 507th Maintenance Company POWs as well as the two POWs from the downed Apache helicopter. All soldiers were safely evacuated to a Kuwaiti hospital for evaluation.

11th ADA brigade FRAGO 52 integrated 1-1 ADA into the 11th ADA brigade. 1-1 ADA had completed deployment of a headquarters, a maintenance company, and three Patriot batteries to Camp VIRGINIA. The plan was for the battalion to train and

maintain Alert State Zero. The brigade was commanding ten US and five Kuwaiti Patriot batteries. The 11th ADA brigade was also preparing to assist with ARCENT-SA equipment close-out in Saudi Arabia. During this period, the 11th ADA brigade assumed Alert State 4. A/3-2 ADA's equipment arrived at the port where it would remain for immediate upload and redeployment to Fort Bliss. Brigade

FRAGO #53 directed the return of all Kuwaiti GEM missiles back to the 46th Kuwaiti battalion NLT 171200ZAPR03.

The 108th ADA brigade CLOC returned to Al Jaber Air Base after only nine days at Tallil Airbase. With the return of the CLOC the brigade chemical officer announced that members in Kuwait did not need to carry their protective masks on them. This was the first time since the arrival into theater that coalition forces did not have to have their masks on them at all times. However, the coalition forces in Iraq still had to carry their masks.



1-44 ADA (4ID) moving into Iraq

15-17 April, 2003

A large sandstorm sweeps across Kuwait, giving brigade soldiers that refreshing taste of dirt-in-the-mouth. All Patriot batteries assume Alert State 5. Patriot brigades begin issuing orders on procedures for redeployment.

A First for Air Defense – The Story of Abu Gareb

1-3 ADA was now also tasked to provide security and civil-military operations in Zones 6, 34 and 35, to the northwest of BIAP, near the town of Abu Gareb. The battalion had to create an S5 position on the staff, which was assumed by CPT Mike Melito, the battalion assistant S3. At one point, while enforcing a curfew downtown, the battalion commander happened to stop the Abu Gareb Chief of Police because he had an automatic weapon, which was prohibited at that time. After the battalion commander explained the restrictions on automatic weapons in the area, the Chief of Police escorted the battalion commander around the town. Over the next few days, the battalion Assault CP and platoon sized patrols conducted armed reconnaissance throughout their assigned AOR identifying and marking unexploded ordnance and destroying or disabling Iraqi military equipment and ammunition caches.

15 April: V Corps continued to attack to cut off regime escape routes and secured key Iraqi facilities. 1BCT (3ID) secured an army depot and school in zones 33 and 35, secured a power plant in zone 37 and a sewer treatment facility in zone 37, conducted patrols in zone 5. 2BCT (3ID) met with local leaders and police to discuss returning the zone to normalcy. 3BCT (3ID) conducted patrols locating medical equipment at a home in zone 28. 3-7 CAV accepted the capitulation of 12th Brigade in Ar Ramadi. 2BCT (82nd ABN) secures As Samawah, Ad Diwaniyah and Highway 8. The 101st AA Division continues to facilitate the forward movement of the 4ID. 1BCT (101st AA) secures An Najaf, Al Hillah, and Karbala. I MEF maintains the isolation of Baghdad north along the eastern edge of the city, and into the center of Baghdad. Other units continued to secure Tikrit. 1BCT (4ID) moves out of Camps NEW JERSEY and PENNSYLVANIA and the division's main body enter Iraq. 4ID encounters first engagements vicinity Taji and then Balad airfields.

16 April: 3ID began initial coordination with I MEF for the upcoming relief in place. 82nd Airborne Division continued to provide route security from As Samawah to Karbala. 101st AA Division continued to plan and coordinate for the upcoming Kadasea Dam mission. 11th AHR continues to be the corps reserve and conduct rearm, refit, and refuel operations. 2BCT (101st AA) conducted a relief in place with 3BCT (3ID) and prepares to move to assembly area south of Baghdad in order to prepare for move north to Mosul. 4ID continues with deployment from Tactical Assembly Area in Kuwait to assembly areas IRON HORSE and TITANS in preparation for operations in the northern V Corps area of operation. Elements of 4ID attacked west at 0600Z and secured Taji airfield. 1st MARDIV (I MEF) continued security and stabilization operations in Baghdad. TF TRIPOLI continues to secure Tikrit and Al Kut.

17 April: 3ID stopped two bank robberies in Baghdad, detaining 20 personnel and approximately 5 million dollars. 82nd Airborne Division reported a disturbance in Ad Diwaniyah while hosting a town meeting with local Sheiks. The Division was forced to detain Sheik Buzun after his bodyguards fired into crowd of local nationals. 101st AA Division met with local leaders to determine security requirements for a new police force and the re-opening of schools tentatively scheduled for 19 April. 4ID attacked north to clear OBJ PATRIOTS (north of Taji), destroying numerous technical vehicles, capturing unknown number of EPWs, securing two SSE sites, and discovering an SSM site. – obtained from the CMH “History of the Ground War” Brief

“At this point, we were completely maxed-out on combat power, you know, pulling the mission 24-hours a days. Based on how many breaks there were in the walls and wire, and how much looting was going on up in BIAP, the day we rolled in there, we must have kicked out somewhere in the neighborhood of 400-500 looters, if not more. And once we got them all out, then we used any Class IV we could find and we manned every hole in the wall, every break in the fence every road, anything coming into BIAP. And it wasn't just a matter of managing, you know, traffic control points, or check points, or security points, or observation



SHORAD soldiers were counted on to help provide security inside the city of Baghdad.

posts; as well, were tasked to clean up all the enemy caches and mark all UXOs and things like that within our zone, which was an absolute nightmare because there was just so much Iraqi ordnance – it was everywhere.” – CPT Mike Melito, Assistant Battalion S-3, 1-3 ADA, 3ID

1-3 ADA identified all the players were in the city of Abu Gareb from the mayor to the police chief to the leaders of the various local tribes and conducted regular meetings with these individuals. These meetings included directors of each ministry in the town – the minister of irrigation, the minister of electricity, telecommunications, the chemical plant, and the hospital. These meetings continued for about two weeks and were very successful for the most part. The heads of local families elected which personnel they wanted to represent the several tribes and communities in the area. Out of this group they elected came (in a democratic process in a school just outside the 1-3 ADA compound) what was called the “first among equals”.



Elements of 1-3 ADA patrol the open market in Abu Gareb, a town of about 750,000 people just outside Baghdad.

The Iraqis’ major concern was security. Most government agency buildings had been looted or destroyed and many people were out of work and not getting paid. Most of the Iraqis seemed to understand why U.S. forces were there. Conducting joint patrols with Iraqi police paid big dividends in increasing the Iraqi citizen’s trust in what U.S. forces were trying to do in the Abu Gareb area. 1-3 ADA would provide overall security while the Iraqi police went door-to-door capturing the armed thugs and looters. Again, the overall mission was to establish normalcy in the local communities vic Abu Gareb.

“We eventually found the hospital and one of the head doctors introduced us to several “gray colors” (who were the administrators in the town) responsible for running various services in the town. We were able to form a small council to meet everyday with us to discuss how to get the town back to normalcy and get basic facilities back in order. We ran into a SOF officer who was in charge of assisting the local community get a local government established. He met and gained the trust of one of the local Sheiks in the area, who introduced him to another Sheik who introduced him to another Sheik. He was able to bring these 14 Sheiks together for several small meetings at a local school vic Abu Gareb. They then elected 7 of them who would speak for all 14, and out of those 7 the Sheiks elected one of them to be the “first among equals”. After talking to this SOF Captain, and he saw what we were doing downtown, I spent a day with him watching his operation and he spent a day with me watching our operation, and we decided to bring the two of them together inside the local council meeting down in Abu Gareb at the library, which was a neutral location. The library ended up being the police station --- because of its location, and since it was not destroyed or looted --- and ended up being the city council center, and ended up also



MAJ Dan Garcia,
Battalion S-3,
1-3 ADA (3ID)

being the local library. We decided on the day in which we were going to bring the two councils together, the Sheiks and the “gray colors” that we had been working with together, and we were not sure what was going to happen...it was either going to be a really good idea or a really bad idea. So, we had planned for a ‘shit-storm’, and brought down a significant security presence consisting of one battery’s worth of Linebackers, about 20 Linebackers, into Abu Gareb. We blocked off several city streets, restricted access for just the council members and the Sheiks, and brought them together at one time. And it turned out to be a huge success. We all identified each other, we all knew who each other were, we all recognized each other’s strengths and weaknesses and roles and responsibilities. And the “gray colors” submitted to the authority of the Sheiks, and the Sheiks allowed...I won’t say ‘allowed’...but the Sheiks agreed that the “gray colors” would then run the city center, that all the major decisions would be brought to a council meeting at which all the council members --- the seven Sheiks plus the “gray colors” would decide how things would run in Abu Gareb. It has been reported that this was the first local city government established in the Baghdad area since the beginning of the

war.” – MAJ Dan Garcia, Battalion S-3, 1-3 ADA, 3ID

18 April: V Corps and I MEF continue the relief in place of I MEF forces in Baghdad as part of the battle space transition to phase IV operations. V Corps continued to attack to cut off regime escape routes and secured key Iraqi facilities. Other V Corps elements continued to secure population centers and ground lines of communication in central and southern Iraq and supported humanitarian assistance operations in zone. 3ID continued presence patrols, secured sensitive sites in zone. 82nd Airborne Division maintained main supply route security from as Samawah to Karbala and continued to secure Karbala, An Najaf, Al Hillah, Ad Diwaniyah, and As Samawah. 101st AA Division continued presence patrols in zone in order to facilitate a safe and secure environment, and conducted recons of airfields in Mosul and Irbil. 1/10 CAV (4ID) established a screen line from south of Tikrit and made initial contact with I MEF for relief-in-place operations. 1-8 IN (4ID) secured Ballad Airfield. I MEF maintains the isolation of Baghdad north along the eastern edge of the city and into the center of Baghdad. Other I MEF units continued to secure Tikrit.

19 April: 3ID continued presence patrols, secured sensitive sites in zone and continued coordination with I MEF for relief in place operations. 82nd Airborne Division maintained MSR security from as Samawah to Karbala and continues to secure Karbala, An Najaf, Al Hillah, Ad Diwaniyah and As Samawah. 101st AA Division continued presence patrols in zone in order to facilitate a safe and secure environment. 2BCT (101st AA) continued to prepare for future operations in Mosul. 11th AHR continues to be the corps reserve and conducts rearm, refit and refuel operations. 4ID secured Ballad airfield, Tikrit, and Samarra, and continues with deployment from tactical assembly areas in Kuwait to assembly areas IRON HORSE and TITANS in preparation for operations in the northern V Corps area of operation. 1st MARDIV (I MEF) continued security and stabilization operations in Baghdad, and relief in place operations with V Corps while moving to phase IVb positions. – obtained from the CMH “History of the Ground War” Brief

As the 101st AA transitioned to operations within Baghdad, 2-44 ADA continued to receive non-air defense missions to include clearing 65km of highway with engineer support, and maintaining traffic control points along the route to support the corps’ movement of convoys. The battalion also received the mission to command and control the passage-of-lines for 4ID. This mission entailed establishing a battalion TAC, which collocated with the 1-44 ADA (4ID) TOC, the command and control element for 4ID. 2-44 ADA provided several TCPs and convoy escorts for 4ID through the town of Baghdad, enabling the unhindered movement of convoys from 4ID through the 101st AA Division zone. Another mission given to 2-44 ADA was the security of the DREAR. The battalion, due to its staff and ability to command and control, quickly assumed the role as security coordinator, pooled the necessary assets and created a valid security plan that incorporated all of the DREAR assets available. In Mosul, C/2-44 ADA was in charge of distributing ORHA funds for local projects vicinity Tall Afar Airfield. The platoons were now working separate missions for their various task forces such as providing security for a gas station for four days and securing grain silos, and manning check points vic the Iraq/Syrian border.

18-19 April, 2003

With the impending declaration of the termination of major combat operations and the assessed defeat of the Iraqi TBM threat, CENTCOM officially released TAMD forces from coverage of the defended asset list (DAL) on 18 April 2003. B/2-1 ADA moved sixteen missiles to their MSA in preparation of shutting down their PAT Site. The Brigade conducted a data collection exercise at all sites via Electronic Data Recording Tapes. 3-43 ADA prepared to retrograde south to Kuwait by sending 3-ISU-90's with ASL parts to the APOD. The brigade also continued to conduct weapons ranges as ammunition and ranges became available



1-44 ADA (4ID) conducting TCP operations north of Baghdad

1-7 ADA was released from its TAMD mission in Jordan on 18 April by CENTCOM. Units dropped tactical communications with the battalion ICC as Air Force and Army TROPO units received follow-on or redeployment orders. 1-7 ADA Patriot units located outside of airbases broke down their tactical site and moved onto the base to prepare their equipment for sea transport. The units in Amman broke down their sites and moved to the air bases as well.

As of Saturday, 19 April, 31st ADA brigade units were dispersed as follows: A and B/5-52 ADA were located at OBJ LIONS, in the vicinity of BIAP; C/2-1 ADA and B/6-52 ADA at OBJ GRADY; D/6-52 ADA and E/5-52 ADA at OBJ DOGWOOD; A and E/6-52 ADA at LSA BUSHMASTER; the two maintenance companies, 507th and 59th, and HHB/6-52 ADA were all located at LSA BUSHMASTER; and the brigade TOC was located at LSA BUSHMASTER. In the V Corps zone, the TMD mission continued.

The same day, 1-3 ADA, with OH-58D support from the 2nd ACR, Tactical Psyops support and three dozen Iraqi police assaulted the enemy compound. The battalion established two SBF positions with BFV and Linebacker platoons while the battalion Assault CP protected the Iraqi police who followed in busses to a de-trucking point. Again, the combined assault team came under heavy small arms fire from about a dozen gunmen held up in the compound, only this time the battalion had the support of a couple crucial combat multipliers. The Tactical Psyops team, led by SFC Lowry with their loudspeakers were broadcasting messages to clear the Iraqi civilians off the streets, which they did, and the OH-58Ds commanded by Cobra 6 were above observing roof tops and second and third story windows that the soldiers on the ground couldn't see. Simultaneously, the Iraqi police aggressively assaulted the compound on foot like a group of angry fire ants. A short firefight ensued and the enemy gunmen dropped their weapons and fled on foot, quickly intermingling with the enormous crowd of Iraqi civilians who had gathered a short distance away to watch as the combined task force liberated their neighborhood from the gunmen who had terrorized them since the fall of the Iraqi Regime. The raid resulted in the capturing of dozens of automatic weapons and thousands of rounds of small arms ammunition. Additionally, the Iraqi police re-claimed numerous governmental vehicles that were critical to the re-establishment of utilities in the city. The Iraqi civilians cheered and thanked the soldiers of 1-3 ADA as they accomplished another successful operation in the city of Abu Gareb.

On 19 April, 1-3 ADA battalion conducted a reconnaissance in zone in Abu Gareb, identified and seized key terrain in zone and began security operations. That evening, they began the enforcement of the established curfew within the city.

“We conducted a raid in a village with fifteen Bradleys, Kiowa warriors, some TPTs with interpreters, and Iraqi police from the Abu Gareb police department. One of the big initiatives I tried to do in Abu Gareb was we would not take any action against the people down there without the police being present. I viewed that as a way to put respect and authority back to the police in the city, and so we took

thirty of their policemen and conducted a joint raid where we retrieved several stolen city vehicles and captured about numerous weapons and ammunition. To do this we had to integrate with the Kiowa Warriors for air cover and we also had to coordinate for the placement of the psychological teams.” – LTC Mark Garrell, Cdr, 1-3 ADA, 3ID

“The Iraqi people were so excited that we were there, I mean, they were cheering for us all around our vehicles and everything else, while we’re getting shot at. It was really difficult for us in that MOUT environment, talking mostly two and three-story windows. People were on every single rooftop because everybody wanted to watch what was going on because the Americans were there to save them from the armed gunmen, I guess. It made it that much more difficult to figure out who the gunmen were and who the civilians were. That was huge having the Kiowa Warriors being able to tell us what was on the roof tops because we knew there were a few heavy machine guns out there as well. We coordinated with PSYOPS to get the civilians off the street. They were still in their doorways and on rooftops, but it was a lot easier, with those additional combat multipliers, to accomplish the mission.” – CPT Mike Melito, Assistant Battalion S-3, 1-3 ADA, 3ID

20-23 April, 2003

In Kuwait, 32d AAMDC continued preparations for redeployment of the units that had been released

20 April: 3ID Completed relief in place with I MEF, secured sensitive sites near Baghdad. 82nd Airborne Division completed relief in place with I MEF in Ad Diwaniyah and As Samawah. TF TARAWA continues stabilization and humanitarian operation in zone near Al Kut.

21 April: 3ID securing 106 sensitive sites in zone and apprehended numerous four bank robbers and looters. 82nd Airborne Division raided suspected Baath Party location near Karbala. 4ID conducted route recon of Highway 1 north of PL CALIFORNIA, and completes relief-in-place with I MEF.

22 April: 3ID noticed a slight increase in sporadic fires; continues ORHA escort mission, and discovers a cache of 100 RPG Rounds in zone 17 and numerous vehicles, ammunition rounds, and FROG-7 rockets in zones 50 and 51. 82nd Airborne Division continues to assess and support the Arba'in Pilgrimage. 101st AA Division moved into Mosul and began working security issues with local leaders and police to discuss governmental infrastructure. 4ID also established a checkpoint near Tikrit and captured numerous EPWs. TF TRIPOLI (I MEF) rejoined 1st MARDIV and was then disestablished.

23 April: 101st AA Division conducted presence patrols, secured key sites in Mosul, and completed CMO hand-over from I MEF. 1-502 (101st AA) continues to secure assessment teams and facilities at the Haditha Dam and began security patrols in the city. 4ID conducted presence patrols, manned check-points, and cleared ammunition sites in Bayji, areas east of the Tigris River, and Samara airfield. The 173rd Airborne brigade continues to operate in Kirkuk. – obtained from the CMH “History of the Ground War” Brief

from mission. TF 2-1 ADA continued to conduct Table VIII certifications. 11th ADA brigade FRAGO #64 announced the release of TF 3-43 and C/6-52 ADA from LSA ADDER NLT 231100Z. As a result, 3-43 ADA began redeployment to Camp VIRGINIA and returned to the control of 11th ADA brigade. In addition, the 108th ADA brigade directed A/C/D/2-43 ADA to redeploy from An Numiniyah south to Tallil Airbase at 0400Z.

2-44 ADA was tasked to provide TCP and route security to 165 km of the Division’s MSR from Tikrit to Mosul. Once again, 2-44 ADA dispatched a TAC, battalion retrans teams, and the general support battery plus to support the movement of the Division. TACSAT became the primary means of communication between the 2-44 ADA TAC, the DIVARTY TOC, and the Division. Upon arrival to the Mosul area, 2-44 ADA was tasked to assist DIVARTY in CCE operations. The battalion was responsible for the northern half of the city of Mosul and attached an artillery battery to provide the majority of the haul capacity to evacuate the caches.

24 April -1 May 2003

The redeployment order for Patriot forces to CONUS was approved by CFLCC, and the 32nd AAMDC awaited CENTCOM approval. Alert State 0 was announced for Patriot forces across the entire AOR. 32d AAMDC ordered all supply support activities to stop requisitioning parts. All Patriot batteries assumed Alert State 0 five days earlier than anticipated.

On 26 April, 108th ADA brigade issued OPORD 03-0401, which delineated its redeployment plan. The plan essentially called for a phased redeployment that consolidated all of the 2-



2-44 ADA Avenger on guard near Mosul, Iraq.

24 April: 3 ID continued operations in Baghdad. 82nd Airborne Division continued operations against rogue factions near Ar Ramadi, Al Habbiniyah, and Al Fallujah. 101st AA Division continued operations in Mosul. 4ID reports capture of large weapons cache north of Bayji. I MEF transitioning from mechanized to motorized operations. TF TARAWA continues civil affairs operations in zone.

25 April: 4ID continues to conduct combat and stability operations from Samarra to Bayji. 3rd ACR wheeled serials began moving north into Iraq; about 40 aircraft arrived at Baghdad International Airport. 11th AHR closed 1-227 Helicopter Squadron on Camp UDARI. 101st AA Division began joint patrols with MPs and local police, secured an oil refinery and the Mosul Dam. 37th Engineer Battalion (101st AA) secured the Iraqi 5th Corps HQs in Mosul.

26 April: 3ID provides security for the ORHA complex (Palace) using C/3-124 IN to facilitate the establishment of a new Iraqi Government. 82nd Airborne Division continues operations in the Al Anbar province against rogue factions and the overall assessment is that all cities are permissive. 101st AA Division initiated clearing and presence operations in Tigris River valley and secured the possible mass gravesite and cache west of AO BASTOGNE. 1BCT (4ID) continued to secure selected sites in the Bayji and Tikrit areas with check point operations and presence patrols. At 0600Z, 2BCT (4ID) secured Baqubah Airfield with several EPWs and numerous weapons captured. TF Tarawa institutes a curfew with local authorities in Al Kut.

27 April: 2nd Squadron (3ACR) conducted link up with 2BCT (82nd ABN) today, beginning right seat rides in Ar Ramadi.

28 April: 4ID soldiers were engaged by small arms near Bilad Airfield (half-way between Tikrit and Baqubah). Marines continue to work with As Samawah Police, conducting joint patrols.

29 April: 1/10 CAV (4ID) conducted reconnaissance east of Taji. 3-66 AR discovered a training compound with a small arms cache north of Tikrit. 1BCT raided a hospital and discovered an underground complex in Tikrit. 2BCT captured several individuals, hundreds mortars and Al Sammoud missiles in Baqubah. – obtained from the CMH "History of the Ground War" Brief

43 ADA battalion

assets at Tallil Airbase no later than 28 April. The batteries were expected to remain at Tallil for approximately a month conducting a myriad of tasks ranging from initial cleaning of vehicles, reconstitution of parts, iterative inventories of assigned sensitive and normal items, inspections of equipment and several other types of training, to include Table VIII qualifications. Units expected to convoy to Camp Doha on or about 25 May 2003 to undergo cleaning and movement first to a sanitary holding area and then to the SPOE at Ash Shuwaybah Port. The 108th ADA brigade anticipated closing all personnel at Fort Bliss by the end of June. Ninety-four missiles were turned-in to the Arifjan ASP in preparation for worldwide missile redistribution.

1-3 ADA continued to perform its security mission vicinity of Abu Gareb and Baghdad International Airport. The battalion leadership continued to engage with municipal leaders in an attempt to ensure the community returned to a state of normalcy as quickly as possible. To accomplish this, the battalion continued to conduct numerous patrols in the community even though these patrols often come under sporadic gunfire and occasional attack by rogue looters and criminals in the area. Nonetheless, most of the population in the area seemed to support the coalition efforts to restore order and security.

“One time we had gotten the left track of our Bradley hung up on really heavy cable and wire. It was so bad that when we tried to get out of there, we couldn’t. The other combat vehicles and the Iraqis started off to their next objective and we thought we could get ourselves unstuck, so we said ‘we’ll catch up’ because it wasn’t that far away, but as we continued to try to drive and continue to try to cut the stuff out of our vehicle it just somehow got worse. So now we have our Bradley back up on the highway and it came a point at where the vehicle would no longer move forwards or backwards. So, uh, my driver and gunner got out and tried cutting the stuff away, and as we were sitting there we cam under heavy machinegun fire, at least 14mm machinegun, and it hit the electrical lines right next to our Bradley which resulted in a huge explosion and electrical power lines flying everywhere and fire and smoke...pretty exciting. And the Iraqi civilians coming down this highway saw what was going on, and were parking their cars and getting out with pry bars and machetes and anything else they could find, and helping my gunner and driver...they actually pushed my gunner and driver out of the way and took charge trying to untangle this stuff out of our Bradley’s tracks...while we were under fire. It’s just another signal to us that these people really appreciated us being there and they were really trying to take care of us.” – CPT Mike Melito, Assistant Battalion S-3, 1-3 ADA, 3ID

The gunner, SSG Bush, and driver SPC McCool dismounted and attempted to free the track as CPT Melito provided overmatch from the top of the turret with his M-16. The crew came under heavy machine gun fire which struck a transformer and power lines adjacent to the Bradley resulting in a huge explosion. The enemy was firing across four lanes of bumper-to-bumper traffic and in a heavily populated area of the city which made identifying the location of the enemy machine gun extremely difficult. During the confusion, about a dozen Iraqi civilians came out of their homes with tools and Iraqi civilians parked their cars to shield the dismounted crew from the enemy fire. The Iraqi civilians pushed the dismounted crew members out of the way and proceeded to cut the track free with machetes



Bradleys and Avengers could routinely be seen patrolling cities across Iraq.

and pry bars while under intense automatic weapons fire. Within a few minutes, the track was free enough to move and the Bradley was mobile again. Simultaneously, the battalion Quick Reaction Force arrived on the scene and supported crew as they withdrew to a secure location to cut the remainder of the cable out of the track and sprocket.

2-44 ADA’s next mission had it attached to DIVARTY as it conducted route security and then Cache Collection and Evacuation (CCE) operations of Iraqi ammunition, equipment and weapons in the Mosul area. Shortly after assuming the CCE mission, 2-44 ADA once again received a change in mission to supervise all operations within the Division’s collection and destruction point, AO GLORY. The battalion quickly reestablished its command post at the

previous Iraqi V Corps Ammunition Supply Point (ASP, supported by signal, engineer, medical and military intelligence assets. The ASP was 9 x 9 km in size. Meanwhile, 2-44 ADA (101st AA) was

performing security, weapons cache collection, and benzene/propane distribution operations vic Mosul and Tall Afar Airfield.

02 May, 2003

President Bush lands on the Aircraft Carrier ABRAHAM LINCOLN to announce the end of major combat engagements in Iraq. – obtained from the CMH “History of the Ground War” Brief

With the completion of TMD operations, air defenders began to conduct and write AARs to take stock of the many accomplishments during this operation. From Patriot TBM defense to SHORAD performing numerous non-traditional air defense mission in addition to their normal air defense mission, the entire air defense force performed magnificently overall.

Whatever technological edge the US may hold over its adversaries, the root cause of air defense success in combat was the enduring spirit of the American soldier. His and her pride, professionalism, and sense of duty are what ultimately won the war. Perhaps COL Seward, commander of the 108th ADA brigade, summed it up best as he stated,



**COL John Seward, Cdr,
108th ADA
Brigade**

“I can’t say anything but wonderful things about that group of soldiers and their leadership. They lived in dirt; I mean they have never to the day now --- and they’re leaving in two days --- have they ever had any nice place to live. They got to Camp COMMANDO before there was a Camp COMMANDO, and then they left, and then they built showers. And then they went to Camp COYOTE, and left to Iraq before there were showers there. They were always just one step ahead of anything nice. They did everything they were asked of and more, under the harshest conditions I have ever seen, without hot chow without showers, and they made do. The ingenious ability of the soldiers and the NCOs to make do with what they had was just amazing to me.” – COL Seward, Cdr, 108th ADA Brigade

Conclusion

Although the 32nd AAMDC and all the ADA brigade headquarters and Patriot forces redeployed to home station by June 2003, stabilization operations continued in Iraq and ADA (SHORAD) units, leaders, and soldiers continued to be a part of these operations. OIF has shown that ADA soldiers on an asymmetric battlefield must be prepared to accomplish any assigned mission during all phases of operations. The next chapter attempts to capture OIF implications which may affect future TAMD operations.

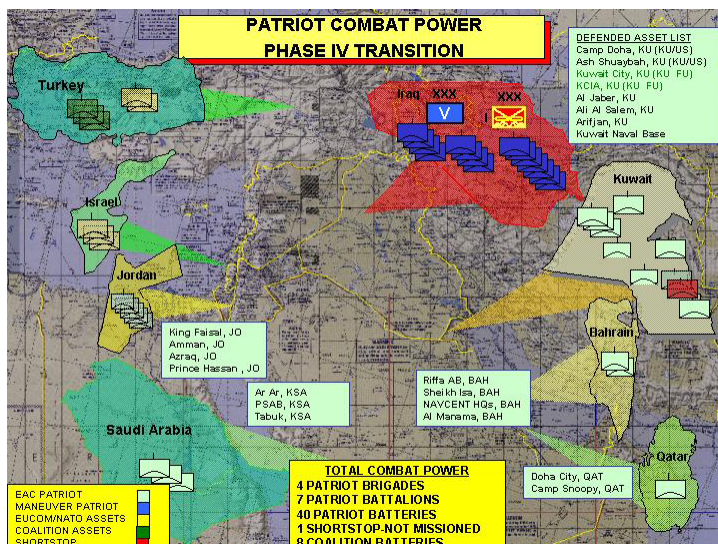
CONCLUSION - TAMD IMPLICATIONS

At 1224 hours on the 20 March 2003, Iraqi forces launched an Ababil-100 TBM at coalition forces in Kuwait. The launch was immediately detected by the search radars of the Aegis Guided Missile Cruiser USS Higgins, on patrol in the Arabian Gulf and one of the sensors in the CENTCOM Theater Air and Missile Defense System. The alarm was immediately passed via AMDWS and the Air Force' AC-10 net across the theater, with an update report that the missile would likely impact in TAA THUNDER, home to 4,000 soldiers and the Aviation Brigade of the 101st Air Assault Division. Moments after the warning was passed, sirens sounded across Kuwait. Soldiers headed toward bunkers, donning protective masks and JLIST as they went. A few moments later, electronic instructions were passed to the firing units of D Battery, 5th Battalion, 52d Air Defense Artillery (Patriot) of the 11th ADA brigade. D/5-52 ADA was one of the "shortstop" batteries, recently created by marrying experienced Patriot crewmen and leaders with pre-positioned Patriot systems that had been maintained in reserve as part of the ongoing ODS Patriot rotations to Southwest Asia. D Battery launched 3 GEM missiles and an Iraqi TBM was destroyed by a direct hit. Major General Dave Patreaus later stated, "Patriot saved the 101st!"



Patriot engagement at night.

This engagement was the culmination of over a decade of effort by the Army Air and Missile Defense community. The mixed results of Patriot missile defense against the Iraqi SCUDs fired during the Gulf War had left air defenders determined that next time around no missile would hit American or coalition troops. Their approach spanned the full range of DOTMLPF and required significant investment not just of money to acquire new and better technologies, but also of time, energy and personal effort by the entire missile defense establishment.



During the decade following DESERT STORM, the doctrinal approach toward defending the force from ballistic missile attack changed in two significant ways. First, rather than being an Army responsibility, Theater Air and Missile Defense became a truly joint and coalition effort. Learning the lessons of the Gulf War, the Government of Kuwait invested heavily in Patriot missile defense. Their materiel investment was backed up by a training partnership with the air defenders of the United States that would bear fruit with the five Kuwaiti Patriot batteries engaging and destroying Iraqi

missiles in OIF, recording two confirmed kills of missiles that would have hit coalition forces in Kuwait.¹ At the same time, the Army led a joint effort toward Theater Air and Missile Defense. GEN Franks designated BG Bromberg, CG 32d AAMDC, as both Deputy Area Air Defense Commander (DAADC) to CFACC and Theater Army Air and Missile Defense Coordinator (TAAMDCOORD) to CFLCC for Air and Missile Defense of coalition forces during OIF. In a series of conferences, BG Bromberg led a joint staff through development of a written, rehearsed and executed Theater Air and Missile Defense Plan. But, the jointness didn't stop with planning. Air Force, Army, national and Navy sensors, including the AEGIS radars, were linked together across the theater to provide early warning of attack and the specific missile track data required for successful engagement. The joint nature of TAMD included the Army providing the 108th ADA brigade to 1 MEF to extend missile defense coverage over Marine and UK forces for the critical efforts in Basrah and the Al Faw peninsula as they moved north through eastern Iraq. Additionally, the Marines and UK Division were provided with and trained by Army air defenders on the AMDWS. This not only enabled integrated planning and execution of Air and Missile Defense, but also provided the Marine elements visibility of all aircraft (friendly and enemy) flying in theater. This added capability significantly enhanced execution of the Marines one battle doctrine that combined air and ground operations.

The second major change in approach to Air and Missile Defense was a shift away from predominantly defensive efforts and toward a more balanced offensive/defensive approach to defeating the Iraqi missile threat. This offensive effort (termed Attack Operations) included Air Force aircraft and Army ATACMS fires against Iraqi ballistic missile systems whether in hide positions, launch facilities, or even if moving. This effort also required significant integration of collection efforts, so that Iraqi systems could be located, targeted and attacked before they launched. The Attack Operations were truly joint in nature. Navy Aegis cruisers would detect a launch and indicate the launch point, passing the data to the Army for immediate Patriot defense. The 32d AAMDC would then pass the launch point to the CAOC at PSAB for attack. In addition, the 32d AAMDC passed voice early warning to the Kuwaiti Ministry of Defense and Ministry of Civil Defense, which then activated over 100 sirens throughout Kuwait. Given that most launches took place from the vicinity of Basra, in the 1 MEF area of operations, the majority of air attacks of launch sites and Iraqi transporter erector launchers (TEL) were usually carried out by Marine attack aircraft. When available, Predator UAVs were vectored into the launch site and on occasion detected and then destroyed with on board Hellfire missiles the Iraqi TEL.

Upon his assuming command of CFLCC, LTG McKiernan reorganized the staff away from traditional stovepiped staff functions and toward a staff executing integrated operational functions. For Air and Missile Defense this meant expanding responsibilities beyond traditional air defense of ground units toward a more comprehensive function of operational protection across the theater battlespace. The three sub-functions --- NBC defense, force protection and Theater Air and Missile Defense were combined to form operational protection and were placed under the oversight of BG Bromberg, CG 32d AAMDC. The CFLCC staff formed a Command Operational Protection Cell (COP-C). The initial effort of the cell was a vulnerability analysis of CFLCC nodes, including ports, pipelines, camps and other key facilities.

¹ On 21 March at 1301 hours an Iraqi TBM targeted on TAA FOX, Kuwait. Kuwaiti Battery Five, commanded by Major Majid Al Khalidi, fired two GEM missiles and destroyed the incoming Ababil-100 before it could reach coalition forces.

The PATRIOT missiles of DESERT STORM had been unable to target the warhead of incoming SCUD missiles. This was corrected through development of the GEM missile and PAC-III weapon system (missile, associated radar and software). Unfortunately, planned acquisition timelines for these two systems were very lengthy due to the high costs. After 9/11 and the President naming Iraq to the “axis of evil,” it became apparent that sometime in the near future 32d AAMDC would be called upon to defend American and coalition forces and nations from ballistic missile attack. The decision was made to accelerate the fielding of GEMs and PAC-3 early, in order to ensure the required capabilities were in the CENTCOM Theater of operations. Accordingly, GEM missiles were fielded throughout 32d AAMDC Patriot units and PAC-3 missiles were fielded to selected units in theater. In total, during OIF 1069 missiles of all types were moved and redistributed within the region in order to achieve the best capability against the threat. Because these systems, PAC-3 in particular, had just been recently fielded, there were significant maintenance and system problems. But air defenders, civilians, and contractors attacked the problems with determination. Their efforts, coupled with the personal command involvement of BG Bromberg, CG, 32d AAMDC and LTG McKiernan, produced the required results. After six months of innovative and dedicated problem solving, every Patriot system in theater was fully operational when hostilities with Iraq commenced on 19 March 2003.

As war approached the Patriot force was deployed into and positioned in theater. U.S. Patriot batteries were deployed to defend strategically key nations in the region, including Turkey, Israel, Qatar, Bahrain, Saudi Arabia and Jordan. Patriot batteries were then integrated with Kuwaiti Patriot batteries to protect critical ports, airfields, bases and infrastructure in Kuwait. Finally, Patriot brigades were allocated to V Corps and 1 MEF for protection of ground combat forces. Given the number of elements to be protected and the vast size of the theater, available Air and Missile Defense forces were stretched thin. BG Bromberg had to find a way to achieve a balance between TAMDC’s strategic stance and tactical stance in the region. To provide the required number of batteries, additional Patriot “short stop” batteries were generated by combining trained cadres of air defenders with float Patriot equipment. The wisdom of this approach was demonstrated when a “short stop” battery engaged and destroyed an Iraqi missile that would have impacted on the 101st Aviation brigade, potentially preventing the loss of life and destruction of dozens of helicopters. Despite the overall success of Theater Air and Missile Defense in OIF, several challenges have emerged.



Congested airspace and EMI on the battlefield were just two of the many challenges facing Air Defenders during OIF.

The first is coping with FROG-like short-range ballistic missile threats in which engagement times have been reduced from the four and a half minutes available to detect, decide and engage the SCUDs of DESERT STORM to about one and a half minutes to detect, decide and engage in OIF. Not only must the force be positioned, prepared and employed to defeat these short timeline threats, the soldiers and leaders must be prepared to make rapid and effective decisions. Those decisions, often with incomplete situational awareness, must be rapid enough to engage in time to prevent impact on coalition forces, but effective enough to avoid potential fratricides. Effective decision-making is a combination of education, experience and wisdom; far more likely to be found in a senior warrant officer

than a young sergeant or lieutenant. Thus, the Army may want to examine changing the rank structure of firing elements, while ensuring the necessary experiences and education are provided to those who may have to make launch decisions in the future.

A second challenge is that of cluttered cyberspace. The OIF area of operations around Karbala during the first week of April 2003 illustrated this problem. Patriots of 31st ADA brigade were positioned in the area to defend V Corps elements, while Patriot and field artillery Firefinder acquisition radars radiated in the area. Helicopter and fixed wing aircraft moved through the area in transit or during close air support missions, employing various radio and radar systems and filling cyberspace along other portions of the electromagnetic spectrum. Overhead, JSTARS and AWACS aircraft added to the clutter carrying multiple emitters on board. Simultaneously EA-6B electronic warfare aircraft conducted jamming and support missions for various air packages. In the midst of this electronic clutter, in the space of a single hour an F-18 was mistakenly engaged and destroyed by Patriot missiles, an air force attack aircraft mistakenly bombed a friendly field artillery unit and an Army helicopter crashed. While not the proximate cause of any of these losses, it is possible that electronic clutter contributed to all three. During the past decade, significant efforts have been made in solving electro-magnetic interference (EMI) problems on specific platforms or weapons systems. The OIF experience suggests that deliberate examination must be made of the operational impact of cluttered cyberspace and joint approaches to cyberspace management must be undertaken.

The third challenge is that of cruise missiles. While Chinese-built, Iraqi employed Seersucker missiles failed to kill any coalition soldiers, the ability of these older cruise missiles to penetrate friendly airspace and reach their targets should serve as a warning to joint and Army leaders that the emerging cruise missile threat must be addressed. While Patriot can effectively engage and destroy cruise missiles, warning and engagement times continue to decrease, while countering cruise missiles requires significant airspace coordination with the CFACC. Specifically, current Patriot cruise missile engagements require significant airspace. Army SHORAD units are also capable of detecting and defending against cruise missiles. A concerted effort along the lines of the post DESERT STORM Patriot effort must be made by the joint force to defeat the cruise missile threat. Accelerated fielding of SLAMRAM and MEADS would provide the 360-degree cruise missile defense capability coalition forces will require in the future.

The fourth challenge is determining the future of the SHORAD force structure. During OIF, SHORAD forces demonstrated the ability to perform conventional maneuver and their standard air defense missions simultaneously. SHORAD forces were given the tasks of securing bridges, manning traffic control points, setting up blocking positions, performing LOC security and conducting joint community patrols with the support of Iraqi police, Kiowa Warriors, military police and SOF. While a traditional maneuver battalion can accomplish the tasks stated above, they cannot perform the air defense mission. SHORAD units demonstrated the ability to do both and were a definitive combat multiplier for the maneuver commanders in the field, allowing their maneuver units to focus on the primary fight. With the



Bradley Linebacker vicinity Baghdad, Iraq.

ever-increasing threat of cruise missiles and other asymmetric aircraft (ultra-lights, UAVs, etc.), Army leadership needs to assess whether or not removing SHORAD from the divisions is indeed the correct course of action.

Another challenge is that of maneuvering Patriot in support of offensive operations. The Patriot system is mobile in that it can move from place to place on its organic wheeled vehicles. However, it was not originally designed to maneuver cross-country as part of a combined arms team. That Patriot batteries were able to maneuver with V Corps and 1 MEF forces as they advanced from Kuwait all the way to Baghdad is a tribute to the skill and energy of the Patriot team. Since the armed forces of the United States are now an offensive force (as opposed to the Cold War, defense of Europe orientation) it is imperative that Patriot become more mobile and able to sustain maneuver over time.

“There is no Rear Area any more. And, I think we need to adjust our training to reflect that, but we also have to adjust our resources to reflect that. I do not have hard-top HUMMWVs with ring mounts; I’ve only got a couple crew-served weapons per units; we only get to fire weapons once per year. But, at the same time I saw the expectation for us to be able to do the same thing the infantryman does. We’ve got to figure out how we’re going to do that, and it’s not going to be cheap, but if that is the expectation, and I see it as being a legitimate expectation, then we need to address that.” - LTC Joseph DeAntonna, Cdr, 2-1 ADA, 11th ADA Bde, 32d AAMDC

During OIF two effective means of warning were the Patriot radars and the Aegis cruisers. While these were effective, it must be noted that most Iraqi launch sites were within radar range of the ocean. The same may not be true in future conflicts in other theaters, and no commander wants to rely on a single detection and warning system. Joint missile defense development efforts (Ballistic, Theater, and Cruise) must incorporate more capable and redundant warning means, to include effective space-based warning that is linked to the theater missile defense architecture. There can be no doubt that future military conflicts will feature more and more missiles. With U.S. dominance in manned airpower, few nations or opponents are going to threaten Army and Marine ground forces with fixed-wing attack aircraft. Instead, the weapon of choice to attack American forces and facilities on the ground is rapidly becoming missiles.

Finally, OIF operations validated doctrine that 32d AAMDC’s location and functions during hostilities should be based on METT-TC and not some “cookie-cutter” type approach. Although the command the past few years has exercised during Ulchi Focus Lens and Roving Sands with co-locating the AAMDC center of gravity (CG and the G2 and G3 staff elements) with the CFACC --- during OIF it was clear that many of the command’s responsibilities would be executed with the CFLCC staff. The G2 section and the Attack Operations cell still deployed to the CFACC location, but the CG and the bulk of the staff executed OIF from the CFLCC location. The main reason for this shift was the requirement to command and control the largest Patriot employment in history. During OIF the CG spent the majority of his time performing the TAAMDCOORD role for the CFLCC and the commander of all EAC ADA brigades role. However, integrating with the CFACC is still a future necessity in order to be able to leverage ISR and attack assets to defeat the long range TM threat that the CFLCC cannot see or affect with current assets. Integration with the CFACC is also imperative to continue to reduce the chance of

fratricide. The 32d AAMDC has shown throughout its short history in OIF and ODT that it is an agile and versatile organization, which can organize itself to meet any contingency mission.

Operational protection may be a role that fits into the structure of the 32d AAMDC. We have the personnel expertise and communications architecture to enable us to perform that mission. The air defense branch has to decide if that is something we want to take on as a full-time role for the Army. With some augmentation in some critical areas such as Military Police, we could begin performing that mission.

“We spent four months doing a defense design on three absolutes that we were just convinced were going to happen, which were the primary threat to Kuwait would be the Al Hussein missile, coming out of Baghdad, and fired at night. So, of course, everyone of our engagements was the Ababil or Al Sammoud, out of Basrah, during the day.” – LTC Joseph De Antonna, Cdr, 2-1 ADA, 11th ADA Bde, 32d AAMDC



For 12 long years Patriot soldiers stood guard under the skies of Southwest Asia.

OIF demonstrated that U.S. and coalition forces can be successfully defended against TBM threat; that joint and coalition integration is the key to defeating future missile threats; and that challenges such as cruise missiles continue to emerge. As evidenced by the eleven TBM attacks against coalition forces since the 20 March 2003, all of which were either intercepted and destroyed by PATRIOT Air Defense system or allowed to land harmlessly in the Persian Gulf or open desert, and the fact that Iraq’s Air Force was non-existent, the role of air defense in the current war caused a significant degradation of Iraq’s ability to inflict damage on coalition forces. Without air defense, Iraq’s ability to terrorize Kuwait, Saudi Arabia, Turkey, Jordan and Israel would have significantly changed the pace and scale of the war. The key now is to continue to improve with the same drive and determination that characterized U.S. Patriot forces after DESERT STORM, so that in future campaigns every enemy missile can again be defeated.

Theater Air and Missile Defense

What Happened

- ❖ Strategic investment and timely allocation in TAMDC paid off: 9 for 9
- ❖ Deployed 80% of Patriot force in order to achieve required Strategic and Tactical Stance
- ❖ Accelerated fielding of PAC-3 and GEM
- ❖ Planned and executed first ever Theater Air and Missile Defense Plan
- ❖ Conducted first ever Coalition Patriot Operations and Patriot support to USMC
- ❖ Patriot moved with maneuver forces in combat with extremely long LOCs
- ❖ 32d AAMDC oversight of CFLCC Operational Protection Coordination Cell (COPCC)
- ❖ SHORAD performed dual mission: (1) air defense and (2) non-traditional air defense (LOCs security, TCPs, bridge security, blocking positions, etc.)
- ❖ LNOs in 6 countries and across all service components
- ❖ AMDWS was a key link in maintaining a common air picture
- ❖ Blue-on-Blue

Theater Air and Missile Defense

DOTLMPF Implications

- ❖ Doctrine
 - TAMDC is a joint/combined fight (sensors, shooters, and Battle Command)
 - Must refine Joint TTPs for Integrated Airspace Command and Control (IAC2) and establishment of a common air picture
 - Operational Protection must be included throughout the planning process
- ❖ Organization
 - Re-look theater Force Packaging and Joint Operational Protection C2 structures
 - Future of SHORAD (cruise missiles, asymmetric aircraft, combat multiplier)
 - Must resource enormous LNO requirement for Coalition and service components
- ❖ Training
 - Maneuver training opportunities for Patriot forces (e.g. CTC rotations)
 - Air battle management training in dense / congested airspace, including possible effects of EMI on the battlefield
- ❖ Leadership
 - Ensure OES / NCOES continues to produce flexible and adaptable leaders who can successfully perform in full spectrum operations and within the COE
- ❖ Materiel
 - More robust comms backbone organic to Patriot Brigades (TROPO, HF, TACSAT)
 - More capable/redundant means of theater Early Warning detection for SRTBMs
 - SHORAD capability against cruise missile threat
 - Continue to fund AMDWS modernization and fielding as a legacy system

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